BC Centre for Disease Control

2002 / 2003 PERFORMANCE PLAN

Promoting and Protecting Public Health

Canadian Council on Health Services Accreditation

Conseil canadien d'agrément des services de santé

Excellence Program

BC Centre for Disease Control

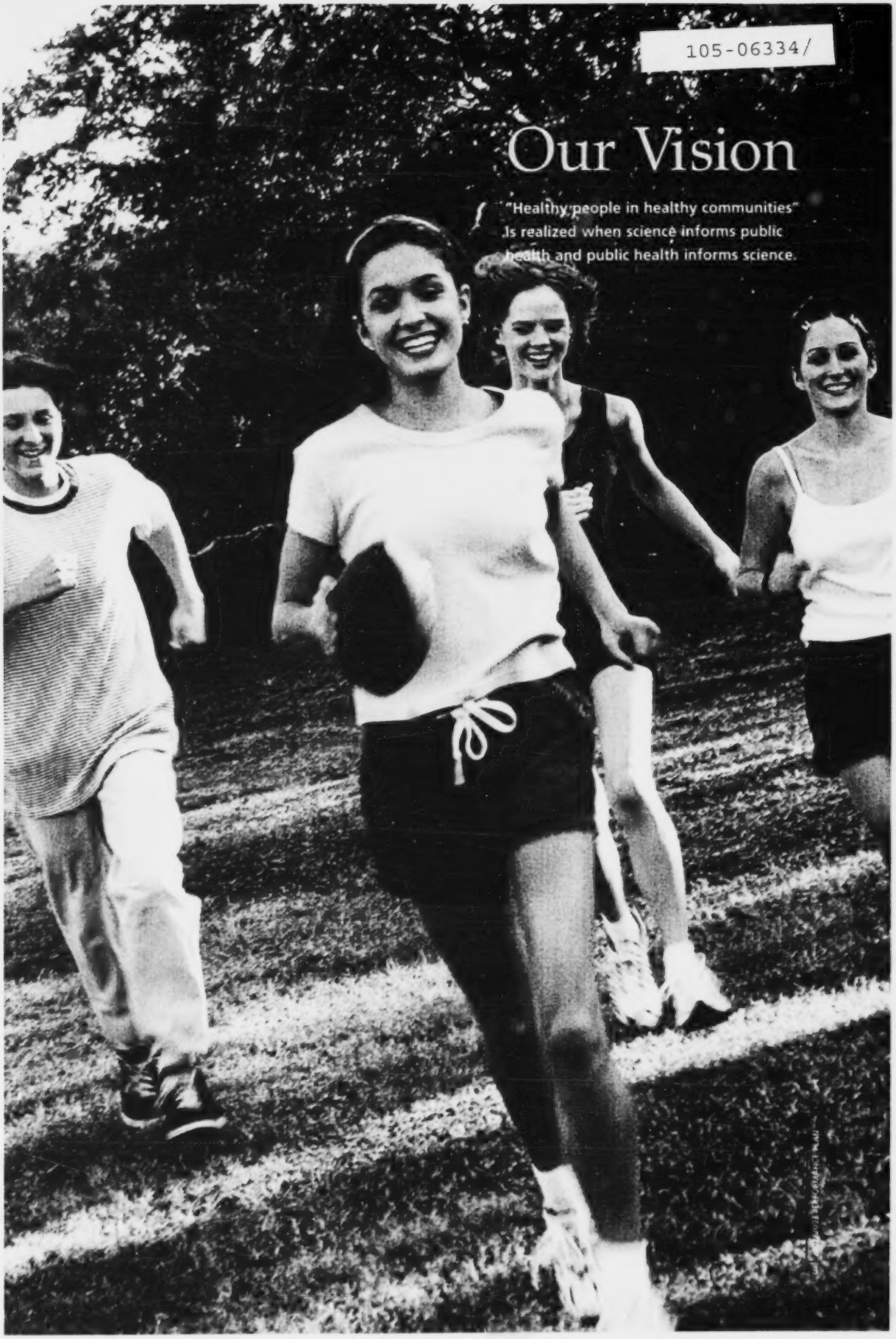
Our logo was created in 1998 with input from staff and hence depicts the nature of our work.

The solid and dark D represents pervasive disease while the first C controls it and the second C affects it as evidenced by the light path through the D. The closeness of the letters reflects the cohesiveness of our component programs.

105-06334/

Our Vision

"Healthy people in healthy communities" is realized when science informs public health and public health informs science.



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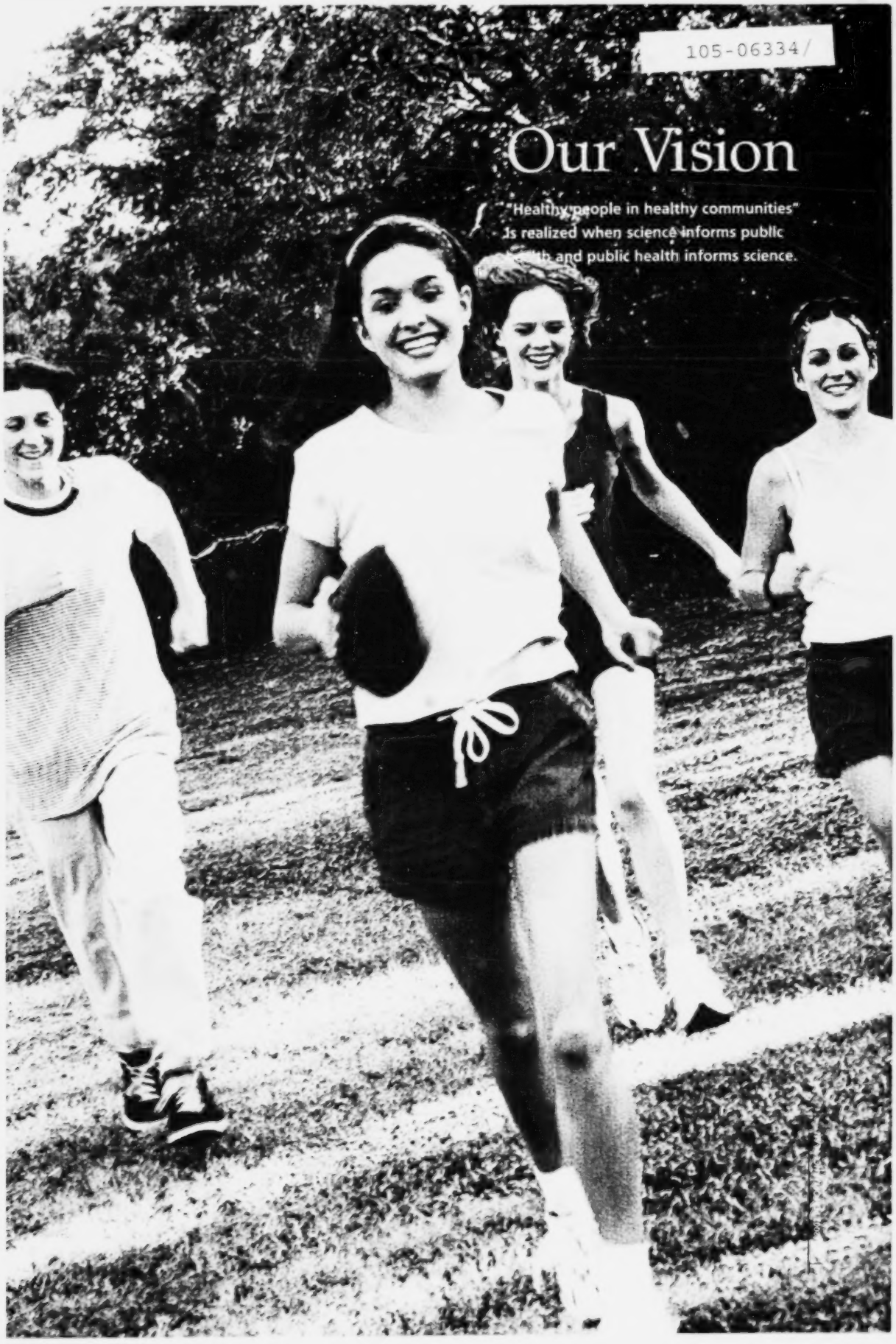

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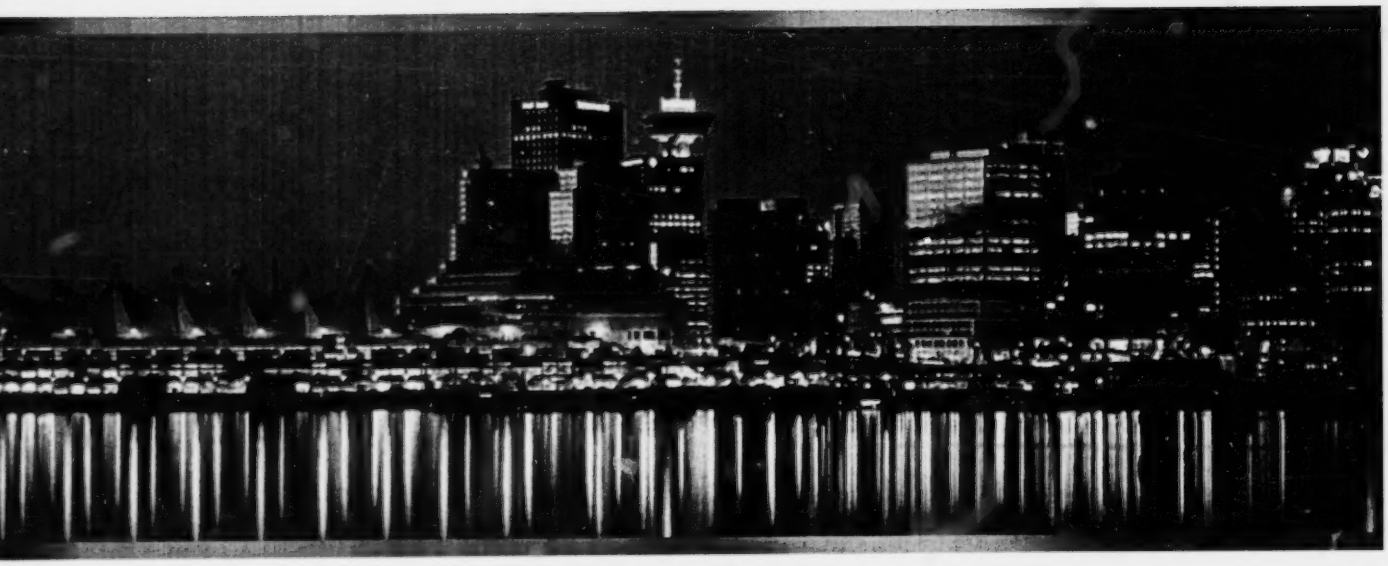

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Our Mission

The Mission of the BC Centre for Disease Control and Prevention Society (BCCDC) is to provide leadership in public health through learning, innovation, action and partnerships for a healthier British Columbia.

Through affiliation with the University of British Columbia (UBC) and in partnership with the public health community, "Our Vision – 'healthy people in healthy communities" is realized when science informs public health and public health informs science."

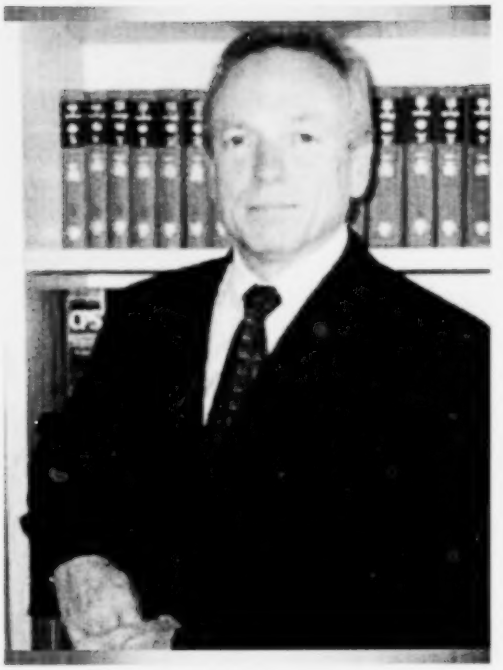
- BCCDC provides the province and supports national initiatives with state of the art public health surveillance, detection, treatment, prevention and consultation services.
- BCCDC provides direct diagnostic and treatment services for people with diseases of public health importance.
- BCCDC provides analytical and policy support to all levels of government and health authorities for the protection and promotion of health.
- BCCDC is a UBC research and training Centre which assures that health practitioners and the public have ready access to the best people with the latest knowledge.
- BCCDC provides opportunities for scientist, health professionals and other partners to contribute their knowledge and experience in resolving the outstanding health challenges facing British Columbia.
- Ultimately, BCCDC envisions that through the application of effective public health services British Columbians will enjoy the benefits of health people living in healthy communities.

Achievement. Commitment.

The Honourable Alan Rock, Federal Minister of Health. Ron Zapp, Provincial Director BCCDC. The Honourable Phillip Owen, Mayor, City of Vancouver.

Provincial Director's Message

This Performance Plan comprises scores of new initiatives and more effective services within our mandated and expected resources.



Ron Zapp, Provincial Director

"The future isn't what it use to be." Last year (2001/2002) brought a world of change and opportunity. September 11 vaulted us into emergency preparedness requirements for bioterrorism. We met the requirements and advanced our role to participation and leadership in national planning events.

Our "Level 3" bio safety containment facilities are certified and functioning for both routine operations and emergency needs.

The same year saw the beginning of an important relationship with the Genome Sequencing Project. This group is now sharing space in our facility and advancing the potential for genome research in communicable disease pathogens.

The Ministry of Health Services initiated restructuring of the health region and authorities for British Columbia. This action has placed BCCDC as a "Branch Society" within the Provincial Health Services Authority. We are now collegially aligned with several other provincial centres of excellence. As well Food Protection Services and Radiation protection Services are being devolved to us from the Ministry and Drug and Poison Control from the University of British Columbia is being realigned for our governance. This new year will offer us the synergy of shared performance enhancements with all our new partners.

It is certain that the effort spent defining our goals as presented in this plan will position BCCDC as the leader in population health programming for our Province.

Ron Zapp
Provincial Director
July 2002

Director, Medical and Academic Affairs

UBC Centre for Disease Control remains a very active research Centre in the Faculty of Medicine with over $3 million in research grants and contract and 49 peer reviewed publications in the past year.

Dr. R.C Brunham, Director, Medical and Academic Affairs Director, UBC/CDC

BC Centre for Disease Control (BCCDC) continues to evolve and re-shape itself. We are now a member Centre of the Provincial health Services Authority. Being part of the PHSA reflects our inherently provincial mission and we look forward with enthusiasm to working within this new Authority and in concert with the five regional Health Authorities.

Within the BCCDC, the five program pillars (Epidemiology Services, Hepatitis Services, Laboratory Service, STD/AIDS Control and TB Control) are developing new cross sectional programs to advance disease control strategies. As an example, the development of molecular typing technologies in Laboratory Services in collaboration with Epidemiology Services has allowed unprecedented abilities to recognize, with enhanced resolution, disease outbreaks at a much earlier stage. Molecular typing of TB strains has shown that the epidemiology of TB in the downtown east side of Vancouver (DTES) is characterized by a series of mini-epidemics.

Collaboration with the Vancouver Coastal Health Authority has resulted in an invigorated new program for TB control in the DTES based on early recognition and treatment of latent TB infection in part because of these findings. We are aiming to extend this program to new immigrants to BC in order to recognize and treat those individuals with latent TB infection who are at highest risk of developing active tuberculosis. This approach holds promise for dramatically increasing TB control in BC.

Each year, the BCCDC responds to 8-10 disease outbreaks. This past year was no exception with epidemics declared for Pertusis, Meningococci group C, Salmonella, Shigella, Norwalk and hepatitis A. Particularly important is the emergence of Cryptococcus neoformans variety gattii as a new endemic mycoses along the southeastern coast of Vancouver Island.

A combined effort of BCCDC staff together with investigators from the Centre for Coastal Health, UBC scientists and the Genome Science Centre revealed the full extent of the disease outbreak and its relationship to airborne spread from infected conifer and deciduous trees. A new research relationship with the National Institutes of Health (NIH) is focussed on evaluating a new glycoprotein conjugate vaccine that may prevent disease due to infection with this fungus.

The capacity to use "experiments-of-nature" is one of the unique research opportunities at BCCDC. It is increasingly apparent that we need to develop funding flexibility within our operating budget and from granting agencies in order to respond to these surges in disease activity.

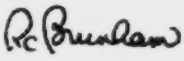
The availability of three new vaccines (varicella, conjugated pneumococcal and conjugated meningococcal type C) as a result of biotechnology research is a harbinger of new forces shaping the practice and financing of public health. These highly effective but costly vaccines are causing us to evaluate vaccine programs based on criteria other than net savings to the health care system. Increasingly, Epidemiology Services will be using innovative economic approaches to forecast the effectiveness of new vaccines and thereby help guide Ministry of Health Services financing of the new vaccines. The rollout of the first of the new vaccines is expected to occur in July of this year.

Over the past year we have strengthened the biostatistical and mathematical talents of the Centre. In particular mathematical modelling of Hepatitis C is helping to shape the public health intervention to control this highly prevalent infection in BC. Additionally, mathematical models of the syphilis epidemic in the DTES of Vancouver have shown the importance of focussing control efforts on sexual networks that are central to transmission. It is clear that mathematical modelling will be an essential component of our public health programming and policy development.

Information management and information technology continue to shape the informed practice of public health. BCCDC is engaged in a detailed review of enhanced surveillance tools linked to the roll-out of the Public Health Information System (PHIS). Development of a province-wide electronic surveillance system is essential to further advancing control of communicable diseases for British Columbia. Using new biostatistical approaches, Epidemiology Services is developing alert thresholds for disease reporting data, thereby recognizing outbreaks at an earlier stage. We anticipate creating a Leadership Chair in informatics that will enable the recruitment of a physician leader who will assist the BCCDC in developing integrated databases for public health and in support of the five regional health authorities and the Provincial Health Officer.

The Genome Science Centre at the BC Cancer Agency has developed shared programming with the BCCDC. In particular, scientists at the GSC are engaged in genomic analysis of the new Cryptococcus neoformans pathogen, in developing innovative tools for genome fingerprinting to facilitate molecular epidemiology and in developing a combined antibioterrorism division shared between the GSC and the BCCDC. The BCCDC is unique in Canada in having such a strong genome science partnership to facilitate its disease surveillance and control programs.

Clearly, 2001/2002 has been a remarkably productive year. I want to personally thank all Centre staff for their extraordinary contributions to making BCCDC Canada' finest Centre for public health practice, research and training.



Dr. R C Brunham
Director, Medical and Academic Affairs
Director, UBC/CDC
July 2002

Who We Are

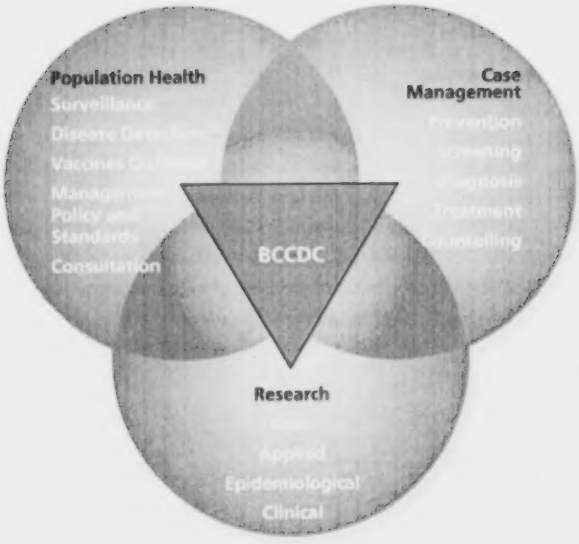
BC Centre for Disease Control (BCCDC) is an organization established under the society Act of the province of British Columbia given the responsibility to conduct a comprehensive program of communicable disease prevention and control for the province of British Columbia, BCCDC provides a unique integration of public health programs resulting in highly effective service, while attracting and retaining the very best scientists and clinicians. BCCDC is accountable to the Minister of Health Services and the general public.

Five key integrated services within BCCDC operate to support the province's regional health authorities to provide the specialized services necessary to control communicable disease in the province and to promote and protect the public health. These are Epidemiology Services, Hepatitis Services, Laboratory Services, Sexually Transmitted Disease (STD/AIDS) Control and Tuberculosis control. Surveillance, epidemiologic analysis, clinical screening, diagnosis and treatment, contact tracing, microbiology laboratory testing, vaccine procurement and distribution, policy development and consultation and applied, clinical and epidemiological research are some of the key functions of the services. Infrastructure support is provided by Information Management, Pharmacy Services, Finance and Resource Management, Human Resources and the Administrative Business Centre.

BCCDC's main facility is located at 655 West 12th Avenue in Vancouver. It is augmented by street outreach nurse services and offices in the inner city of Vancouver, by an ambulatory tuberculosis clinic in New Westminster and by consultative clinics at various locations around the province.

BCCDC collaborates with the University of British Columbia Centre for Disease Control (UBC CDC) in the advancement of public health policy, applied research and clinical teaching.

Who We Are



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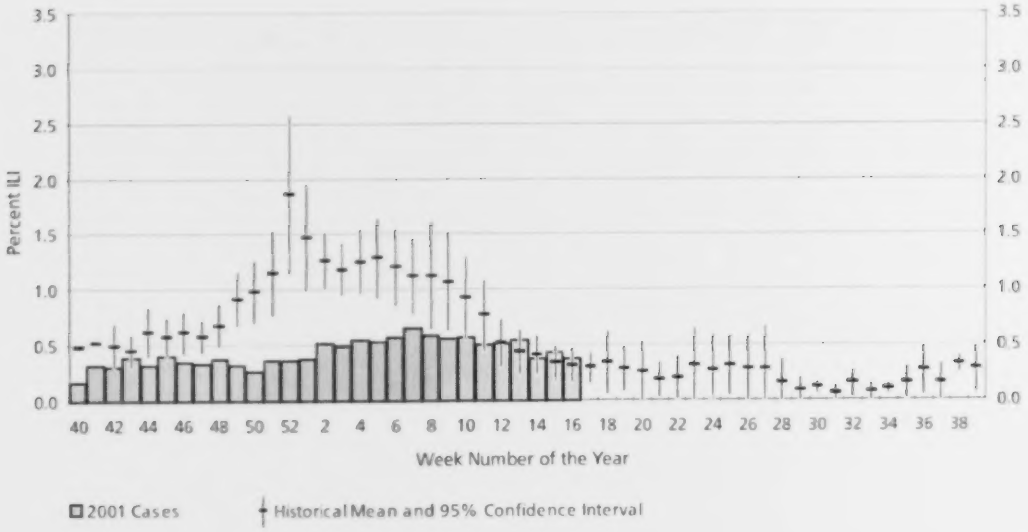
Communicable Diseases

Communicable diseases are caused by viruses, bacteria, parasites and fungi. Common modes of transmission are respiratory (measles, tuberculosis), sexual (HIV, chlamydia), blood borne (hepatitis B, and C), fecal-oral (salmonell, shigella) vector-borne (Lyme disease, malaria) and waterborne (giardiasis, cryptosporidiosis).

As specified in schedules A and B of the Health Act, Communicable Disease Regulations and the Venereal Disease Act, cases and outbreaks of communicable diseases are reported to BCCDC by the Medical Health Officers in the province. BCCDC maintains, monitors and acts on the data on behalf of the Provincial Health Officer.

Provincial registries of active cases of tuberculosis, reportable cases of sexually transmitted diseases (STDs), meningitis, hantavirus pulmonary syndrome, leprosy, rheumatic fever and other reportable communicable diseases are maintained by BCCDC.

Percent of Physician Visits due to Influenza Like Illness (ILI) in BC 2001/2002 Season Compared to 1989/90-2000/01 Seasons



We Always Meet or Exceed Our Client's Expectations.

On April 18, Premier Gordon Campbell launched the Leading Edge Endowment Fund, which creates 20 B.C. leadership chairs in the fields of medical, social, environmental and technological research. Members of an independent society including our own Dr. Renton established to administer the fund joined the premier at the event. Left to right: Minister of Competition, Science and Enterprise Rick Thorpe, Minister of Advanced Education Shirley Bond, Judith Issaac-Renton, Director of B.C. Centre for Disease Control laboratory services and Professor of Medical Microbiology at UBC, Hector MacKay-Dunn, senior partner at Farris, Vaughan, Wills & Murphy law firm in Vancouver, Martha Salcudean, professor emeritus and former department head of mechanical engineering at UBC, Michael Phelps, chairman of Duke Energy Gas Transmission Canada's advisory board, Hassan Khoshrowshahi, chairman of Inwest Investments Ltd., Jack Blaney, commissioner of the International Joint Commission and former president of Simon Fraser University, Premier Gordon Campbell.

Corporate Performance Planning

BCCDC's Program Goals

Performance planning was undertaken at BCCDC in order to more clearly articulate the intended results of public health efforts and led to the articulation of the following six long-term goals. Defining these six long-term public health goals has helped to create the context for concurrent research activities at the Centre through the application of evidence based public health policies.

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal A

Through the application of evidence based public health policies eliminate endemic transmission of communicable diseases -diphtheria, measles, mumps, polio, rubella, Haemophilus influenzae type b (Hib), hepatitis b and syphilis.

Strategy

- In partnership with Health Authorities health care providers and consumers achieve 95% population participation rates in vaccination programs for targeted preventable diseases.
- Through the use of best practice initiatives (social network analysis, peer education and focus mass treatment and testing) increase the number of communicable disease cases found and successfully treated.
- Maintain the human resources and expertise required to fully investigate outbreaks of communicable disease.

Corporate Level Objectives and Performance Measures Related to Goal 1-A

2002 – '03 Objectives	Performance Measure
90% coverage for recommended vaccines for children by age 2 years and school entry in order to achieve zero incidence of tetanus, diphtheria, polio, and Hib in children under 5 years	Year over year immunization rates Rates of vaccine preventable diseases
Through the use of social network analysis, peer education and focused mass treatment and testing to increase the number of cases found and successfully treated by 25 % in order to achieve long term goal of syphilis elimination by 2006.	% Increase in new cases found and treated through field initiatives Syphilis case rates for BC

Corporate Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal B

Through the application of evidence based public health policies achieve effective control for tuberculosis, HIV, hepatitis A and C, chlamydia, gonorrhea, influenza and pertussis.

Strategy

- Through partnerships develop, implement, evaluate and continuously improve preventive and care management strategies in order to achieve best practice in the prevention, detection, control, and treatment of communicable diseases in the BC population.
- Use aggressive case finding and treatment methodologies for communicable diseases, which are not amenable to vaccine prevention but are possible to eradicate through other prevention and treatment methodologies.

Corporate Level Objectives and Performance Measures Related to Goal 1-B

2002 – '03 Objectives	Performance Measure
Through targeting high risk populations eg. substance users, aboriginal populations, use best practices to achieve rate reductions in the incidence in the following communicable diseases	# of positive cases Ectopic pregnancy, PID and tubal infertility rates
· HIV 0% increase · Chlamydia 10% increase in cases · Gonorrhea 5% decrease · Acute Hepatitis B 5% decrease	Case finding number # of IVDU harm reduction initiatives implemented by Health Authorities
Through effective vaccination and control measures achieve reductions in influenza, hepatitis A, and pertussis.	Vaccination rates Lab reported case rates
Develop and initiate a strategy for identifying new immigrants to BC who are at high risk of tuberculosis and increase treatment of latent TB infection by 5%.	Latent TB treatment rates in foreign born population

Goal Two:

Detect and Respond to New Disease Threats

Develop the institutional mechanisms to rapidly recognize and respond to emerging infectious disease threats to health, including water and food borne disease outbreaks, pandemic influenza, Bioterrorism, and other new unknown emergent infectious disease agents.

Strategy

- Monitor worldwide patterns of emerging disease threats.
- Strengthen surveillance capacity, especially through enhanced laboratory networking, better linkages with primary care providers, identifying and engaging at-risk populations in order to anticipate, prevent, and/or respond effectively to potentially catastrophic emerging disease threats.
- Develop innovative laboratory techniques to molecularly fingerprint microorganisms of public health significance.
- Design an alert function, which can be applied to PHIS or other information systems.

Work in collaboration with Ministries of Health Services and Planning, Provincial Emergency Program, Federal Government, Health Authorities and health practitioners and emergency responders to complete Pandemic Flu Plan and CBRN Terrorism response plan. Develop internal capacity at BCCDC to support the Province if such catastrophic events should occur.

Corporate Level Objectives and Performance Measures Related to Goal 2

2002 – '03 Objectives	Performance Measure
Improve surveillance capability by reducing reporting delay from 16 days to less than 7 days, 25% increase in Lab linkages through clinical and environmental networks, 10 % expansion of sentinel physicians and clinical site partnerships and monitoring of at least two vulnerable populations enhance recognition of new disease patterns.	# of regions using new PHIS Modules % of laboratory partners in networks % increase in # of sentinel physicians Mean time between lab diagnosis and PHIS reporting to Epidemiology.
Improve response capability including Bioterrorism, threats in high risk populations, Pandemic flu plan, water safety, multi-drug resistant TB and ensure the maintenance and development of appropriate human resources to undertake effective surveillance and outbreak investigation.	# of CD results reported through PHIS Pandemic Plan completed Readiness for bioterrorism completed Outbreaks are investigated to the satisfaction of the PHO
Institute routine Pulse Field Gel Electrophoresis (PFGE) typing of Salmonella, Shigella, Ecoli 0 157 and Listeria monocytogenes and share data nationally through Pulse Net to increase number of outbreaks recognized at national level through sharing common PFGE pattern.	% increase of number of diseases recognized by lab molecular typing in provincial and national collaboration

Corporate Performance Planning

Goal Three:

Advanced Informatics

Develop advanced surveillance systems for alert and performance monitoring purposes in public health.

Strategy

- Development of comprehensive provincial public health information systems (PHIS).
- Provide timely web based access to health information for consumers and health care providers.
- Public Health Laboratories networks linking private and public laboratories to case data via PHIS. Integrated prevention and care information management capacity for communicable diseases pilot tested through Hepatitis initiative.
- Inter-jurisdictional collaboration on health surveillance molecular finger printing through inter-provincial and national laboratory networks.

Corporate Level Objectives and Performance Measures Related to Goal 3

2002 – '03 Objectives	Performance Measure
Implementation of new web based PHIS in 12 months and provide timely web-based access to health information for consumers and heath care providers.	Post implementation review report Number of hits to BCCDC's website PHIS used to recognize "outbreak" in 50% of Health Authorities
Formalize relationship with the private/public laboratories in order to enhance access to communicable disease information for surveillance.	Memorandum of understanding with Laboratories Evaluation of epidemiological benefits of expanded lab network

Goal Four:

Foster Applied Research and Innovation

Establish an environment that fosters discovery of research findings of international significance and which contribute to evidence based policy development.

Strategy

- Develop and implement a Research Plan that optimizes external funding and supports the strategic Vision, Mission, and Goals of BCCDC and the Provincial Health Services Authority.
- Create an environment that is supportive of research and facilitates effective collaboration with other scientific institutions and researchers in BC, Canada, and internationally.
- Ensure Ministry of Health Services and Planning, Health Authorities, public health users, clients and other stakeholders are able to benefit from, contribute to, and influence research priorities at BCCDC.

Corporate Level Objectives and Performance Measures Related to Goal 4

2002 – '03 Objectives	Performance Measure
Complete development of Research Plan in consultation with end users, including Health Authorities, Ministries of Health Planning and Services, and clients and interest organizations.	HOC, Nursing, and Environmental Health Councils sign off of Research Plan.
Establish the basic infrastructure to support research. (4 divisional-based research coordinators and 1 manager)	% increase of research grants and contracts % increase in peer reviewed publications
Establish an ongoing base budget allocation to support the research infrastructure positions.	Complete planned relocation by end of fiscal year.
Develop a funding strategy, which includes public private partnerships, targeted grant applications, and the creation of a Foundation to support research.	
Integration of Genomic Research into BCCDC through collaboration with BC Cancer and the relocation of components of the Genome Centre to BCCDC.	
Application of advanced mathematics and statistical analysis in two of more Divisions of BCCDC.	# of accepted mathematical models/peer reviews published

Corporate Performance Planning

Goal Five:

Maintain Public Health Excellence

Promote and develop highly qualified persons to sustain and support state of the art public health services throughout the province.

Strategy

- Provide training to health providers, public, patients, clients and other stakeholders.
- Support continuing education of our existing staff with an emphasis on advanced informatics and Best Practices in communicable disease prevention and treatment.
- Collaborate with educational institutions throughout the province to support and attract future public health professionals.
- Recruit, retain and reward highly qualified staff.

Corporate Level Objectives and Performance Measures Related to Goal 5

2002 – '03 Objectives	Performance Measure
Increase training opportunities for health care providers by 10% , and provide better collaboration and knowledge exchange with public health providers throughout the province by increasing secondments / exchanges by 10%.	% increase CME updates /events. % increase in # of divisional training events open to external stakeholders. % increase in secondments and training event attendance.
Increase number of trainees through BCCDC by 20%.	% increase of students by each category. User/staff surveys.
Maintain BCCDC staff excellence by developing a training plan.	% increase participation in external Best Practices initiatives. Staff surveys. Training Plan developed and funded by October 2002.

Goal Six:

Provide Leadership and Support Partnerships

Provide leadership and create alliances in order to facilitate the development of an integrated public health system for British Columbia.

Strategy

- As a member of the Provincial Health Services Authority (PHSA) provide Health Authorities and practitioners with access to tertiary public health expertise, leadership, and support resources and champion evidence based public health practice throughout the province.
- Provide expert public health surveillance and policy advice to the Provincial Health Officer and related government ministries.
- Strengthen a population health approach to the prevention of disease and the promotion of health.
- Focus attention on the health status of aboriginal populations and engage stakeholders in efforts to improve health status.
- Provide leadership in the epidemiological understanding of disease and the effectiveness of population based intervention strategies.

Corporate Level Objectives and Performance Measures Related to Goal 6

2002 – '03 Objectives	Performance Measure
In conjunction with the PHSA undertake an assessment of the value of establishing a Centre of Population Based Epidemiology and Health Economics.	Establishment of a working group from PHSA to examine potential benefits.
Formalize Best Practice guidelines in at least three disease areas (Latent TB, Hepatitis, Water Borne diseases).	# of Best Practice Guidelines produced
Expand by 5% the involvement of BCCDC staff in strategic local, provincial, national and international initiatives.	% increase in staff participation at each of the four levels
Work with community leaders to enhance the recognition and support of BCCDC's contribution to improving the health of British Columbians.	Funding of at least one leadership Chair at BCCDC
In order to improve programs and services to aboriginal people assist the PHO in the development of the aboriginal health report 2002-2003.	

UBC CDC Research Report

BCCDC is committed to working with the Health Authorities, research institutions, and public and private sector partners to strengthen British Columbia's ability to confront new disease challenges.

UBC CDC Research Report

1. Introduction

In concert with foregoing Corporate Performance Planning the University of British Columbia Centre for Disease Control (UBC CDC) leads the quality and research initiatives for the Centre. The following presents the framework for this critical collaboration.

It is generally acknowledged that public health improvements are responsible for most of the gains in human health realized over the past century and a half. Public Health is a practice whose knowledge base has been primarily derived by observing and analyzing the biological, social, and environmental factors that impact human health. Science systematizes the analysis of these factors in ways that results in innovation.

Scientific investigation, surveillance, epidemiological analysis, laboratory investigation, screening, and community based prevention and treatment interventions are the cornerstones of public health practice. We believe that Public health is an arena where scientific inquiry and service are synergistic, mutually supporting each other in a common quest to enhance understanding of human health.

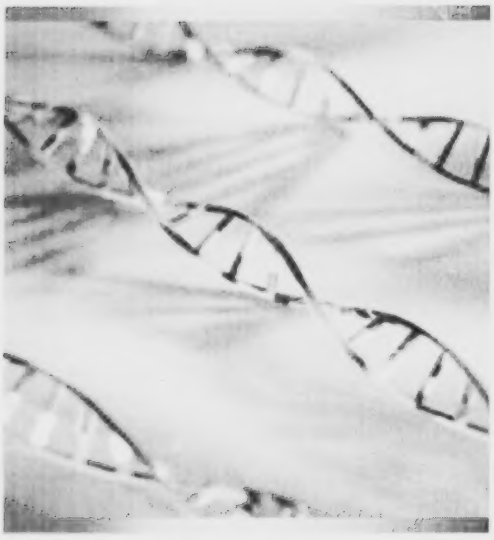
BCCDC is committed to working with the Health Authorities, research institutions, and public and private sector partners to strengthen British Columbia's ability to confront new disease challenges and rapidly respond to public health problems facing individuals and communities by strengthening our investment in research. The recent incidents of water and food contamination, emergence of new infectious diseases, and the threat of pandemic flu and bio-terrorism are examples of challenges which are already before us and for which research is essential to planning.

As a learning Centre, research is at the heart of the BCCDC mission. Importantly research findings are also altering approaches to program planning. For instance, analysis of the azithromycin mass treatment program aimed at eliminating infectious syphilis transmission on the Downtown Eastside of Vancouver demonstrated that in an open community such as the Downtown Eastside, with substantial in and out migration, mass treatment to control syphilis is unlikely to work. Rather, the focus for disease control needs to be on case finding through innovative tracing and network-based techniques and on working within the community to alter the upstream population health determinants of disease transmission.

Other examples of the blending of research activities with program needs were also evident over the past year. These include demonstrating that meningococcal pharyngeal carriage is rare even during an epidemic of meningococcal group C disease in Abbotsford, defining the clinical and immunologic features which characterize adverse events following influenza vaccination and determination of the geographic and climatic correlates of the emergence of Cryptococcus neoformans var gattii disease on Vancouver Island. These results informed not only our provincial public health programs but also contributed data of national and international significance. The opportunity to use "experiments of nature" to answer important health questions is a unique feature of our Centre's research environment.

The following document is offered in order to stimulate a broader discussion concerning the quality agenda for BCCDC. We are inviting our clients, external service and research partners, to reflect upon the importance of research to public health and give us feedback concerning the proposed research focus at BCCDC. Over the course of the next few months, input will be sought and utilized to finalize a strategic direction document and to determine the specific priorities for improvement and enhancement at BCCDC in support of public health in British Columbia. The goal of the process is to enhance the coherence, interaction and focus of research activities. It is recognized that much of the best research is opportunistic, responding to real life problems and thus we strive to achieve a plan which has both focus as well as flexibility to respond to unanticipated needs.

UBC CDC Research Report



2. BCCDC's Need to Commit to Research

Research is viewed as a key strategy for realizing BCCDC's mission and program goals. Our commitment to research is a reflection of our belief that knowledge, derived though rigorous scientific inquiry and practical community health experience, is the foundation upon which evidence based effective public health practice is discovered and implemented.

BCCDC's commitment to research stems from our responsibility to provide expert advice, specialized provincial services, and leadership in public health. We are determined to translate into public health practice knowledge that is emerging from science. Our research interest represents public health's core capacities of population-based investigation and analysis that focuses on identification of preventable risk factors using multidisciplinary population based approaches. Since environmental factors and genetic endowment acting over the life course of individuals who live and work within communities determine health and disease, BCCDC embraces a broad interdisciplinary view of research activities.

BCCDC's research focus provides an opportunity for teams of scientists and practitioners (physicians, nurses, epidemiologists, laboratorians, economists, mathematicians and behavioral scientists) to work in synergy with members of affected communities to apply scientific methods to develop and evaluate public health strategies and interventions.

BCCDC is committed to helping British Columbians access the new knowledge and emerging technologies that are transforming medicine and biology. Through research we encourage the development of a predictive science of infectious diseases by applying the perspective, theories and methods from multiple scientific disciplines that are important to issues of infectious disease origins, prevention and the consequences of control programs. Genomics and informatics are the twin technology platforms for this new predictive science of infectious diseases. This agenda depends on interdisciplinary collaborations among many members of the BCCDC faculty. As a result, research at BCCDC is often team-based with partnerships internal and external to the Centre. Such research is oriented at the discovery of fundamental biological principles underlying infectious systems as well as detailed knowledge for the treatment and prevention of specific infectious diseases.

The affiliation of BCCDC with UBC provides the mechanism by which research and training activities at the Centre are coordinated.

BCCDC is a UBC research and training Centre which assures that health practitioners and the public have ready access to the best people with the latest knowledge. Ultimately, the Centre envisions that through the scientific application of effective public health services, British Columbians will enjoy the benefits of healthy people living in healthy communities.

3. Proposed Focus of Research Excellence for BCCDC

A two-day "Roadmap to Research" retreat was held by BCCDC staff and invited participants. Following this, the group proposed that the following six areas become the focus of research excellence at the BCCDC.

1. Evaluation of Population Level Interventions
   - Vaccine immunoepidemiology
   - Food and water programs
   - Mass antimicrobial treatment campaigns
2. Surveillance and Outbreak / Field Investigations
   - Geographic information analysis
   - Cluster analysis and novel sampling techniques
   - Time-series analysis for surveillance "alerts"
   - Molecular typing of pathogens for enhanced recognition and epidemiology
3. Genomics
   - Microbial genomics, lateral gene transfer and the evolution of infectious disease
   - DNA-array analysis of genome expression in disease and microbe detection
4. Social and Environmental Determinants of Disease and their Application to Public Health Prevention Programs
   - Social network theory
   - Climate Change
   - Global Health
5. Mathematical Modeling of Disease Dynamics
   - Determination of critical points for interruption of disease transmission
   - Insilico evaluation of control programs
6. Evidence Based Public Health Policy
   - Informatics
   - Data Linkages
   - Economic analysis

These research foci intersect with and build on the long-term program goals for the BCCDC and thus harmonize with other essential components of the Centre. However, at this stage the research foci have only been considered by the BCCDC faculty and need to be "reality-tested" in the harsh light of day by responses from the major partners of the Centre and the main user of Public Health research results. The Centre is committed to engaging in this dialogue.

UBC CDC Research Report

Dr. Deborah Money, Associate Director, STD/Aids Control

4. New Developments Improving Research Capacity and Productivity at BCCDC

A successful research environment is a subtle blend of people, ideas and opportunities. Creating a research environment is part planning and part luck. The Centre has been particularly fortunate in the past year in building its capacity for research and in improving its productivity. As a result, research is now a part of most programming and an activity undertaken by most faculty.

New Faculty

Over the past year four new faculty and three new associate members joined us. The changes in our faculty have considerably expanded and diversified our scientific base. New research opportunities and collaborations are occurring.

- Dr. F. Marra is the Director of Pharmacy Services and brings research interest in pharmacokinetics, pharmocoeconomics and pharmacogenomics.
- Dr. D. Money, who joined the Centre as Associate Director of STD/AIDS control, expanded the Centre's research expertise to include HIV in women and children. Sadly, Dr. Money has since left the Centre and is currently director of Fetal and Maternal medicine at Children's and Women's Hospital, but we continue to benefit through her strong leadership in these areas.
- Dr. M. Naus joined the Centre as Associate Director of Epidemiology Services whose extensive expertise in communicable disease control strengthens research activities in tuberculosis epidemiology and epidemic disease investigation.

- Dr. B. Pourbohloul joined the Centre to create a new mathematical and biostatistical unit. His expertise in mathematical models of dynamic systems is transforming how we envision interactions between pathogens and populations and in shaping intervention programs for syphilis, pertussis and hepatitis C.

- Dr. D. Scheifele joined the Centre as an associate member in part because of his leadership of the Vaccine Evaluation Centre at Children's and Women's Hospital. His expertise strengthens our research base in vaccinology.

- Dr. F. Brinkman from Simon Fraser University and Dr. M. Marra from the Genome Science Centre are also new associate members. Their relationship to the CDC creates a unique strength in pathogenomics – the science of genetic origins of microbial pathogens.

The Genome Science Centre Joins Forces with the BCCDC

- The GSC at the BCCA has moved two of its program elements to the BCCDC.

- Fifteen bioinformatists are located in UBC CDC office spaces. Their expertise in analysis of genome structure and expression is available for research collaborators within the CDC.

- Twelve genomicists are located in the Genome Science Lab (the old Mycology lab) and have set up a state-of-the-art gene expression laboratory that is again available for shared research projects.

- These facilities create a genomic capacity at the Centre which is unique in Canada. Genomics is central to research developments into the evolutionary origin of infectious diseases and the consequences of control programs and to the development of improved diagnostic and prevention tools for Public Health.

Research Awards and Publications

- During the year April 2001 to March 2002 faculty at the Centre were awarded $3,041,180 in research grants and contracts.

- Forty-nine publications were reported by Centre faculty. Given that the Centre has 17 faculty this represents research income on average of $179,000 per faculty per year and a research publication rate of 2.8 per faculty per year.

While these metrics are of a national standard of success for a research-intensive unit, we need to work towards matching >10% of our base budget funding in external research grants and contracts (approximately $5 million per year) and encourage publication of more research findings in high impact peer reviewed journals. Ultimately we need to demonstrate that our research efforts have resulted in better disease control and prevention.

BCCDC 2002 Research Report

5. Plans for the Future

CIHR Grant to Study Research Needs and Gaps – Communicable Disease Control

The Centre received a grant from the CIHR to assess the needs and gaps in the area of communicable disease control. Both users of research results and scientists are being contacted. Environmental scans, in depth interview and iterated focus groups will provide information to shape the research agenda within the Centre and its external networking with scientists, policy makers and public health practitioners. Thus, the six areas identified by BCCDC faculty as foci for research excellence are to undergo intensive adjustment through feedback and input, in part guided by the results of this study.

Additional External Funding Sought

Centre staff are applying for over $3,000,000 in new grant/contract applications this fall in research areas such as vaccinology, pathogenomics, genomics of bioterrorism, chronic disease etiology, mathematical modeling, pharmacokinetics, vector and water borne disease epidemiology, and tuberculosis epidemiology.

Research Infrastructure to be Improved

Centre investment in infrastructure to support research activities has been identified as critical to sustaining research success and moving into new areas of investigation. A central administrative unit, together with divisional based research coordinators are required as minimum to build the research infrastructure for BCCDC. Infrastructure will be enhanced through better alignment of research activity with BCCDC's operational public health responsibilities and through a more aggressive approach to external research funding. It is anticipated that improvements in infrastructure will achieve a ten-fold return on investment within three years.

Seminar Series and Meetings to Encourage Scientific Exchange

To strengthen exchange of information, two regular series of rounds are being organized at the Centre. Twice monthly (first and third Friday of each month, 12-1 PM) Public Health Grand Rounds are held in the lane level conference rooms (see enclosed schedule). These rounds feature our faculty in topics related to new research and program findings. As well we will be hosting 4 sessions for visiting professors from outside the Centre. Every two months BCCDC together with SFU also hosts research seminars on Pathogenomics. These rounds are coordinated in part by Dr. Fiona Brinkman. Lastly, Centre faculty (physicians and scientists) regularly meet once monthly to discuss academic and research activities as part of mini MAC.

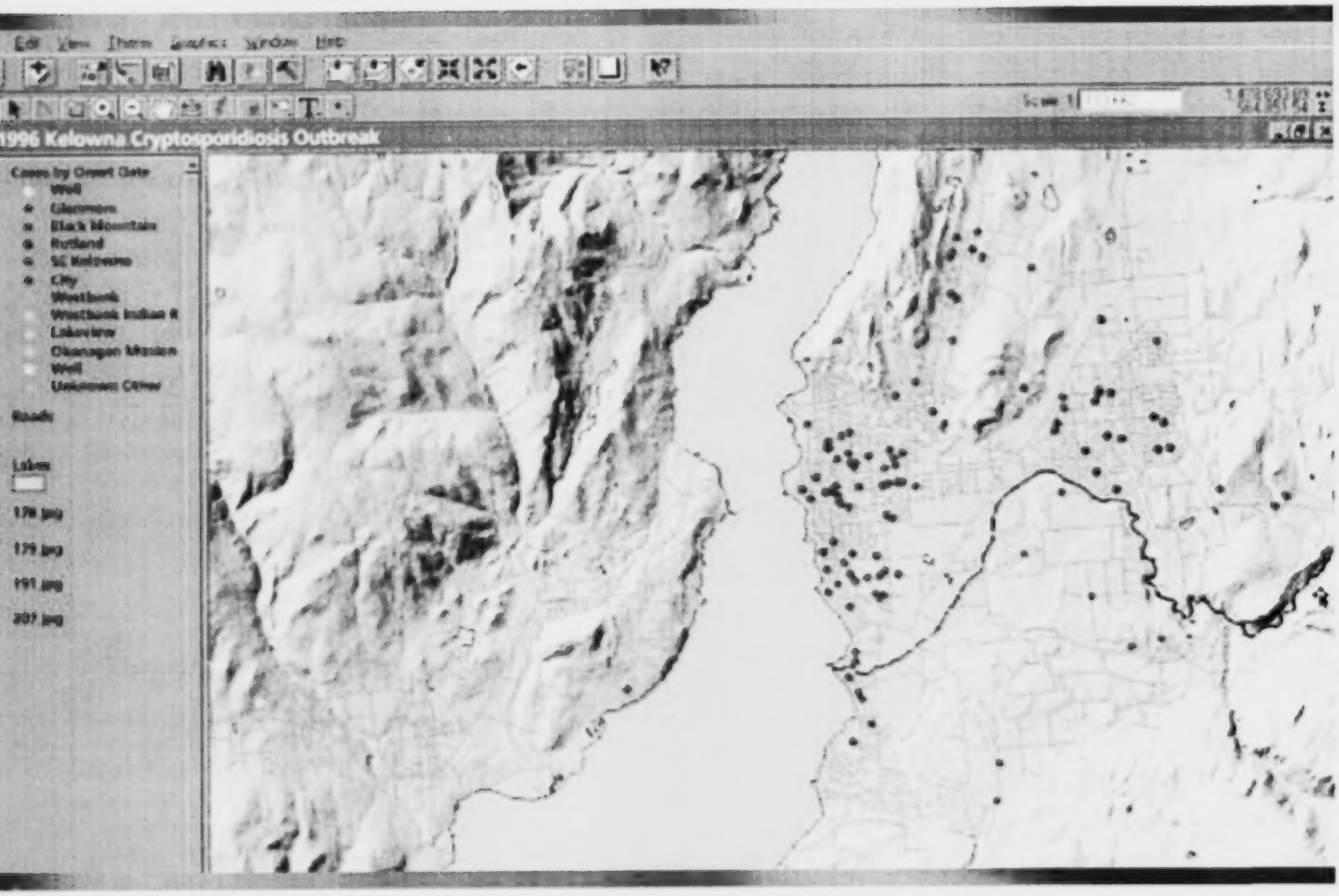
6. Research Performance Planning and Evaluation

The UBC CDC Director and staff are responsible for managing the infrastructure to support research and to provide evaluative feedback to researchers, trainees, stakeholders and other key participants on the status of research at the Centre. CIHR has developed evaluative criteria for itself that are useful for the BCCDC to use in its evaluation of research programs.

These measures are:

1. Measures of outstanding research productivity
   - Grants and contracts
   - Peer-reviewed publications
   - Time-lagged impact factor analysis using "science citation index"
2. Measures of people and capacity
   - Numbers and quality of research trainees
   - Recruitment and retention of highly capable persons
3. Measures of partnership and public engagement
   - Networking and collaboration among researchers and across disciplines.
   - Linkage between researchers and users of research results
   - Public awareness of communicable disease issues
4. Measures of translation of research knowledge
   - Increased relevance and responsiveness of research activities
   - Effective communication of research findings
   - Linkage of research findings to evidence-based public health policy development
5. Measures of organizational excellence
   - Role of BCCDC in organizing regional, national and international conferences.
   - Innovative new programs for communicable disease control
   - Continuous learning environment

These measures will be standardized, collected on a biannual basis, and reported to the BCCDC and its external partners. Performance measures of the research program will make ourselves more transparent and accountable to one another, to our partners, to other stakeholders in the population and public health research, policy and practice communities. Reports on the evaluation of research productivity will be part of the ongoing performance monitoring process that guides program activities at the Centre.



Technology Applied

The diagram above is an example of how the Geographical Information System is used to determine geographic clustering of disease in the province.

Epidemiology Services

Dr. David Patrick, Director, Epidemiology Services

Epidemiology Services investigates and evaluates communicable disease as it affects the population of British Columbia. It is the provincial monitoring centre for reportable cases of communicable disease.

Surveillance and other data on reportable and non-reportable cases of communicable disease are used by Epidemiology Services to evaluate trends in incidence of communicable disease, identify emerging populations at risk, to identify outbreaks and initiate control measures for reducing the spread of disease. Findings are communicated to public health officials, institutions and communities.

Vaccines for all provincially funded immunization programs are managed by Epidemiology Services and evaluated for effectiveness and adverse reactions. Newly licensed vaccines are evaluated prior to introduction to the publicly funded immunization program.

Epidemiology Services is also responsible for the development of policies and procedures for communicable disease control in the province and serves as a key source of consultation for others involved in communicable disease prevention, control and population based research.

In conjunction with the University of British Columbia (UBC) and Health Canada, Epidemiology Services is a training site for Federal Field Epidemiologists and UBC trainees in postgraduate programs.

Epidemiology Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Eliminate endemic transmission of syphilis, diphtheria, polio, measles, mumps, rubella, haemophilus influenzae type b, hepatitis b

Sub Goal A

Optimize immunization coverage with publicly funded infant and childhood immunization programs (Ultimate Objective - 95% coverage at age 2 and 95% coverage in kindergarten for indicated vaccines.

Strategy

- Bulk purchase of vaccines required for publicly funded program
- Measurement of immunization uptake with feed-back to the public health field on performance
- Measurement of the rate of acute hepatitis B
- Promotional activities as required based on the outcome of interim measurements
- Work toward enhancing surveillance for vaccine safety and improving vaccine registries

Epidemiology Objectives and Performance Measures Related to Goal 1-A

2002 – '03 Objectives	Performance Measure
90% coverage rate publicly funded immunization programs	Immunization coverage at age 2 (define this a 4 doses of diphtheria, pertussis, tetanus, polio and hib; 2 doses of measles, mumps and rubella and 3 doses of hepatitis b vaccine) Immunization coverage at kindergarten.
Acute hep. B rate of 2.7 cases per 100, 000	The rate of incidence of acute hepatitis B in BC.

Goal One:

Eliminate and Control Communicable Diseases

Achieve effective control for tuberculosis, HIV, hepatitis A, hepatitis C, gonorrhea, chlamydia, pertussis and influenza.

Sub Goals B, C, D

- For hepatitis a, influenza and pertussis, optimal immunization coverage from publicly funded programs.
- Consider the merits of a publicly funded hepatitis a immunization program for food handlers. (objective for 2002/2003 –)
- For hepatitis c, track ongoing transmission through enhanced surveillance to guide retooling of harm reduction strategies. Monitor rates of treatment and cures of hepatitis c.

Strategy

- Bulk purchase of vaccines required for publicly funded programs
- Measurement of immunization uptake with feed-back to the public health field on performance
- Measurement of the rate of acute hepatitis C by enhanced surveillance system
- Promotional activities as required based on the outcome of interim measurements
- Work toward enhancing surveillance for vaccine safety and improving vaccine registries

Epidemiology Objectives and Performance Measures Related to Goals 1 B, C, D

2002 – '03 Objectives	Performance Measure
90% coverage rate publicly funded immunization programs.	Immunization coverage at age 2 (define this a 4 doses of diphtheria, pertussis, tetanus, polio and hib; 2 doses of measles, mumps and rubella and 3 doses of hepatitis b vaccine). Immunization coverage at kindergarten.
Complete briefing note to government on food handlers immunization for Hepatitis.	Ministry acceptance of Analysis.
Operative enhanced surveillance system able to distinguish acute from chronic hepatitis C cases.	Preliminary report on findings.

Epidemiology Performance Planning

Goal Two:

Protect and Respond to New Disease Threats

Develop institutional mechanisms to rapidly recognizing the response to an emerging infectious disease threats to health.

Sub Goals A, B, C, D, E

- Maintain human resources and expertise required to fully investigate outbreaks of communicable disease.
- Design an alert function which can be applied to PHIS or other information systems.
- Institute the PHIS outbreak module. Institute the lab link function of PHIS.
- Completion of pandemic influenza planning document.
- Continue to bolster bioterrorism planning by such activities as:
- antibiotic stock piling designing templates for public health clinics which could distribute mass immunization or antimicrobial treatment

Strategy

- identify provisional cuts to budget which do not compromise outbreak investigation capability
- work with statistician and health Canada to compare alerting strategies and adopt a method for piloting
- work with PHIS management to facilitate the lab and outbreak modules of the health information system being operationalized
- work with staff and the public health field to complete pandemic influenza and emergency clinic plans

Epidemiology Objectives and Performance Measures Related to Goals 2 A - E

2002 – '03 Objectives	Performance Measure
Maintenance of existing outbreak investigation capacity.	# of FTE's.
3 diseases alert functions to be alarmed in PHIS.	Health Authority acceptance of PHIS alert functionality.
Outbreak module operative on web version of PHIS.	Health Authority acceptance of Outbreak function
Completion of Pandemic Flu Plan by October	First draft distributed to stakeholders for comments
Bioterrorism response capacity enhanced through development of basic antibiotic stock at BCCDC and design of distribution templates for anti-microbial treatment.	Stock at BCCDC. Templates accepted by Health Authorities and basic training/awareness provided to core staff.
Provincial lab and at least one commercial lab linked in order to reduce information transfer from a mean of 16 days to 3 days	Rate of information transmission between lab, Epidemiology, and Health Authorities

Goal Three:

Develop Advanced Information

Develop advanced distributive information system for surveillance alert for performance monitoring purpose and health.

Sub Goals A and B

- Continued expert epidemiological input into PHIS development.
- Track planning for programming alert function into PHIS

Strategy

- As above.

Epidemiology Objectives and Performance Measures Related to Goals 3 A and B

2002 – '03 Objectives	Performance Measure
As above	As above

Epidemiology Performance Planning

Goal Four:

Foster Applied Research & Innovation

Establish an environment which fosters discovery of research findings of international significance and which contributes to evidence based policy development.

Sub Goals A and B

- Continue to support professional staff to share information nationally and internationally
- Encourage and reward research grants and publication

Strategy

- Identify means to keep staff trained and in contact with other leaders in their fields
- Continue to fund services of a research co-ordinator to maximize opportunities in realizing grant revenue

Epidemiology Objectives and Performance Measures Related to Goals 4 A and B

2002 – '03 Objectives	Performance Measure
6 peer reviewed publications	# of original publications coming from UBCCDC/BCCDC.
$200,000 in extramural grants and contracts	Value of research grants awarded to UBCCDC/BCCDC

Goal Five:

Maintain Public Health Excellence

Promote and develop the skills of highly qualified persons to sustain and support state of the art public health services throughout the province.

Sub Goals A and B

- Maintain and improve training commitments to staff.
- Contribute to training of individuals throughout the public health field by providing educational opportunities to public health nurses and physicians.

Strategy

- Identify means to keep staff trained and in contact with other leaders in their fields
- Provide training opportunities for residents, field epidemiologists and graduate students
- Provide update opportunities for practicing professionals

Epidemiology Objectives and Performance Measures Related to Goals 5 A and B

2002 – '03 Objectives	Performance Measure
Professional staff attend and report on at least one high quality scientific update meeting annually	Completion rate / attendance at scholarly meetings
3 trainees rotating with our services	# of trainees
10 in-service or continuing education sessions provided.	# of in-service sessions provided by staff
One course at UBC provided.	# of UBC Courses

Goal Six:

Provide Leadership and Support Partnerships

Provide leadership and create alliances in order to facilitate development of an integrated public health system for British Columbia

Sub Goal A

Continue to forge alliances with HOC, the University of British Columbia and numerous national and international committees.

Strategy

- Regular attendance at faculty meetings at UBC
- Regular contributions to health officers' council

Epidemiology Objectives and Performance Measures Related to Goal 6 A

2002 – '03 Objectives	Performance Measure
Epidemiology representation at all HOC meetings.	Proportion of meetings where represented.

Food Protection Services

Larry Copeland, Director, Food Protection Services

The safety of the food supply is a fundamental determinant of the health of British Columbians. Food Protection Services provides leadership in developing strategies and programs which contribute to ensuring the safety of the food supply in British Columbia. To this end, Food Protection Services provides direct prevention/inspection services to the dairy, meat and fish processing industries and acts in a consultative/resource capacity to the Ministry of Health Planning and the five provincial Health Authorities directly responsible for the delivery for the remaining food safety programs. In these capacities Food Protection Services can directly control some factors affecting food safety, influence outcomes in others, and in some cases only respond to issues.

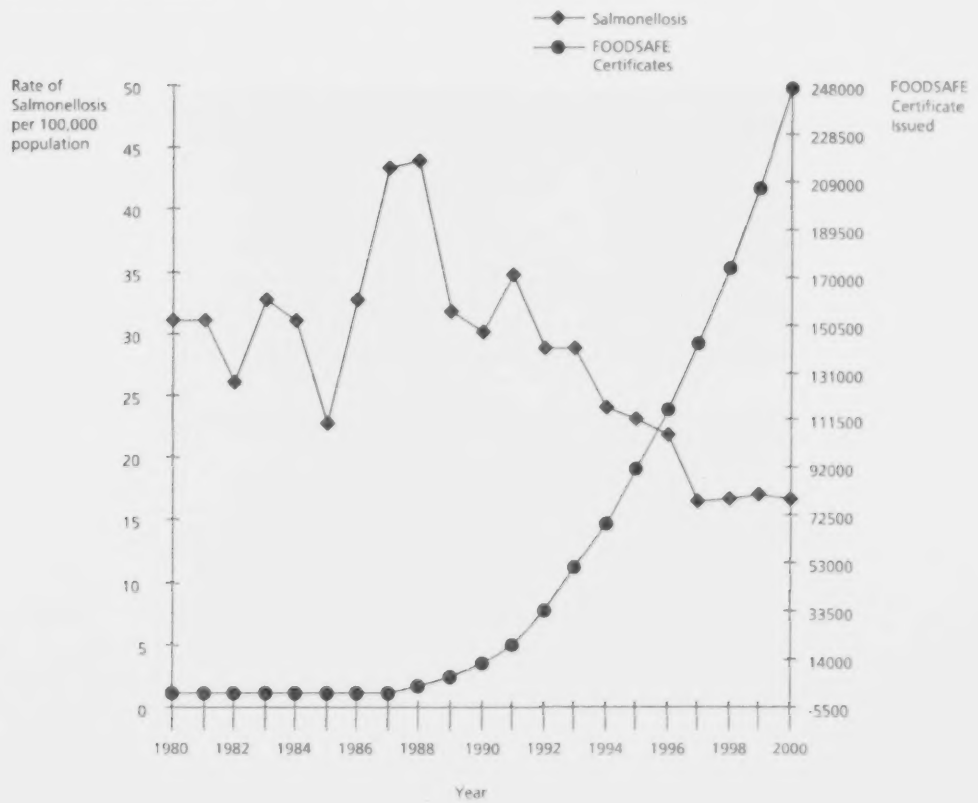
Federal and Provincial Ministers of Health and Agriculture endorsed a national initiative for Canadian food inspection systems that focus on outcome/science-based regulation, risk-based food inspection, and harmonization of food safety standards across Canada. Food Protection Services works with their federal/provincial/territorial counterparts in health and agriculture to draft model regulations and codes that might be adopted as a template for harmonized legislation that satisfies the intent of the national initiative.

The recent trend toward outcome/science-based regulation and risk-based inspection requires that the Health Authorities implement strategies to enable field operations to carryout the prescribed objectives. Food Protection Services provides necessary support and guidance on policy and standards, training and education, and the science/technology of food safety.

A significant proportion of foodborne illness occurs as a result of improper food handling practices by those who prepare food, either in food establishments or in the home. Foods Protection Services leads the FOOD-SAFE program, (which educates individuals working in food establishments) and participates in the national public education campaign FightBAC!

Food Protection Services act as the primary contact for emergency food recalls in British Columbia. This involves the dissemination of recall information to key provincial health agencies along with required actions and follow-up communiqués as necessary. In this way contaminated food products are efficiently removed from the public domain.

In addition to the above consultative/support functions, Food Protection Services delivers food safety programs in dairy, meat and fish processing plants. While direct inspectional services are provided by Food Protection Services staff in dairy and fish processing plants, inspection services in provincially licenced abattoirs are provided by way of a contract with the Canadian Food Inspection Agency.



Food Protection Services Performance Plan

Goal One: Eliminate and Control Communicable Diseases

Control, influence and respond to factors known to adversely effect the safety of the food supply:

Sub Goals:

- ensure the public has access to reliable information that will assist them in making informed food safety decisions.
- develop strategies based on scientific principles that will assist Health Authorities in implementing strategies that will minimize the risk of foodborne illness.
- ensure that legislation, policies and standards are actively reviewed, and reflect current technology, practices and scientific knowledge.
- ensure BC's food safety programs are equivalent to national food safety standards established under the Canadian Food Inspection System.

Strategy:

- develop public information materials on safe food handling practices.
- ensure food safety programs target the major causes/sources of foodborne illness.
- recommend to the Ministry of Health Planning required changes to legislation, policies and standards.
- develop and maintain British Columbia Food Codes.

2002 – '03 Objectives	Performance Measure
Develop public information materials on food safety.	# of information materials developed.
Conduct risk assessments, and develop strategies to minimize risk of foodborne illness.	# of risk assessments, and strategies developed.
Review legislation, policies and standards to ensure currency.	#'s of legislation, policies and standards reviewed and updated.
Ensure equivalency of food standards to national models.	Participation in development of national models, and incorporation into BC's standards.

Goal One: Eliminate and Control Communicable Diseases

Sub Goals:

Reduce the incidence of conditions known to contribute to foodborne illness, and the unsafe processing of dairy, meat and fish products by:

- licencing/inspection of all provincially licenced dairy, meat and fish processing plants.
- monitoring the safety of dairy, meat and fish products through sampling and analysis.
- initiating legal action where necessary to ensure mitigation of unsafe practices and products.
- ensure the effective recall of contaminated food products.
- develop and deliver educational programs aimed at empowering the dairy, meat and fish industries to conduct self-inspection/safety programs.
- maintain statistical information for the program.

Strategies:

- evaluate applications and issue licences to provincial dairy, meat and fish plants as per statutory requirements.
- inspect dairy, meat and fish plants to ensure compliance with regulation requirements.
- ensure abatement of all critical hazards.
- take legal action where necessary including detention of products, issuance of tickets, closures and revocation of licences, and laying charges.
- submit and analyze samples for compliance with standards.
- develop and deliver educational courses, conferences and printed food safety materials.
- develop codes of good practices, HACCP, and GMP practices manuals.
- act as a resource for the industry about food safety/science, safe plant operation and equipment.
- maintain databases to provide statistical information on plant inspections, violation rates and critical hazards.

2002 – '03 Objectives	Performance Measure
Licence and inspect all provincial dairy, fish and meat processing plants.	Process applications within 14 days. Dairy - 1 in-depth dairy inspection, plus average 3 other inspections per year. Meat – as per federal/provincial agreement. Fish – average of 3 inspections per year.
Ensure correction of all critical hazard violations.	Immediate correction, or within time specified.
Investigate reports of unsafe practice/contaminated products.	Investigations initiated within 24 hours of complaint.
Sample and analyze dairy products for compliance with food safety standards	# of samples tested and analyzed for compliance with food safety standards.
Develop and deliver education programs/ materials aimed at empowering the processing industries to conduct self-inspection/safety programs.	# of programs/materials developed.
Maintain statistical information on the safety status of processing plants in BC.	- maintenance of data bases for mandated food processing industries. - analyses of data, and implementation of strategies based on analyses.

Food Protection Services Performance Plan

Goal Two: Protect and Respond to New Disease Threats

Sub Goal:

Position Food Protection Services to control, influence and respond to changes in the food safety system.

Strategies:

- develop and maintain foodborne illness data which identifies critical factors such as the number of outbreaks, causes, foods of concern, and costs to the healthcare system.
- develop and recommend innovative ways to achieve reductions in the incidence of foodborne illness.
- initiate and participate on provincial/federal food safety management committees.
- promote food safety as an essential component of the healthcare system.
- establish working relationships with key federal food safety departments, and request/participate in food safety research initiatives.
- act as the primary provincial contact for food emergencies such as recalls and terrorism events. Disseminate information to Health Authorities, coordinate response, and liaise with federal food safety authorities.
- develop the province's legislation, policies and standards that will ensure currency of the province's food safety system.
- draft responses to Minister's letters.
- assist Health Authorities in responding to food safety issues from their Boards, and the public.

2002 – '03 Objectives	Performance Measure
Develop data on the causes/incidence/cost of foodborne illness.	Data base of food borne illnesses.
Develop innovative approaches to achieve reductions in food borne illness.	# of new food safety programs/strategies.
Initiate/participate in provincial/federal food safety management committees.	# of committees participating on.
Act as primary provincial contact for food emergencies, recalls.	# of food emergency events.
Review and develop province's food safety legislation, policy and standards.	# of legislation, policies and standards reviewed and developed.
Draft Executive correspondence such as Minister's letters and briefing notes.	# of Minister's letters and briefing notes.

Goal Three: Develop Advanced Information

Sub Goal:

Provide appropriate and timely support to the Ministry of Health Planning and Health Authorities on food safety information and monitoring systems.

Strategies:

- develop food protection website and maintain with current food safety information.
- develop innovative food safety assessment systems.
- review data to assess trends, and develop intervention strategies.
- participate in provincial and national initiatives to enhance food safety data/reporting systems

2002 – '03 Objectives	Performance Measure
Assist in, and maintain Food Protection Services' web site.	Development of web site.
Develop food safety assessment systems.	# of systems modified/developed.
Participate in provincial and national data/reporting system initiatives.	# of provincial and national initiatives.
Advise Health Authorities on new/innovative information and monitoring systems.	Communication with Health Authorities regarding information and monitoring systems.

Food Protection Services Performance Plan

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Assist in, and maintain Food Protection Services' web site.	Development of web site.
Develop food safety assessment systems.	# of systems modified/developed.
Participate in provincial and national data/reporting system initiatives.	# of provincial and national initiatives.
Advise Health Authorities on new/innovative information and monitoring systems.	Communication with Health Authorities regarding information and monitoring systems.

Goal Four: Foster Applied Research and Innovation

Sub Goal:

Establish an environment which encourages research projects, and which contribute to evidence based policy development.

Strategies:

- develop research collaborations with stakeholders, and obtain external funding in applied food safety research.
- develop partnerships and collaborations internally and externally to identify priorities and seek funding sources.

2002 – '03 Objectives	Performance Measure
One review completed in each program area per year.	# of reviews completed/year.
Each program area undertakes one research initiative/year.	# research initiatives/year.
Establish at least one new link with the research community.	# of links established/year.

Goal Five: Maintain Public Health Excellence

Sub Goal:

Promote and develop the skills of highly qualified persons to sustain and support progressive food safety services throughout the province.

Strategies:

- develop and provide food safety training courses to health authority staff.
- develop/provide current food safety information materials to Health Authorities.
- conduct literature searches, obtain scientific information on issues of concern to Health Authority staff.
- develop/maintain a listing of food protection information sources (e.g. journals, books, websites).
- maintain expertise as a scientific food safety resource for the Health Authorities, other government agencies, the food industry and the public.

2002 – '03 Objectives	Performance Measure
Represent the Province on federal/provincial/territorial committee to develop a Blueprint for the Canadian Food Inspection System.	Participation on FPT committee(s).
Develop/Chair provincial food safety committees/ councils.	# of committees formed/ chaired.
Develop communication links with Health Authorities and other external stakeholders to ensure currency of legislation, policy and standards.	# of linkages.
Establish communication links with scientific and technical resources.	# of linkages.
Ensure the currency/ viability of FOODSAFE program, and act as a resource for Health Authorities.	Continued recognition and support of FOODSAFE program.

Hepatitis Services

Dr. Mel Krajden, Director, Hepatitis Sevices

BC Hepatitis Services, a new division within the British Columbia Centre for Disease Control, brings together clinicians, scientists, educators, health and social service agencies and consumers to develop and implement best practices for integrated hepatitis prevention and care management within British Columbia.

Program Goals

To reduce the harmful effects of Hepatitis B and C in those already infected by employing best practices to treat and/or cure hepatitis.

To improve hepatitis prevention by reducing the incidence of hepatitis A by 25%, hepatitis B by 25% and Hepatitis C by 10% in British Columbians within five years through the discovery and application of evidence- based best practices.

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Program Structure

The program has a small interdisciplinary team that fosters and maintains working partnerships with key experts/organisations within British Columbia and across Canada. The team tackles the complexities of concurrently developing and implementing best practices, while integrating services in a client-focused and cost-effective manner.

Activities include developing and/or supporting quality improvement/research initiatives such as:

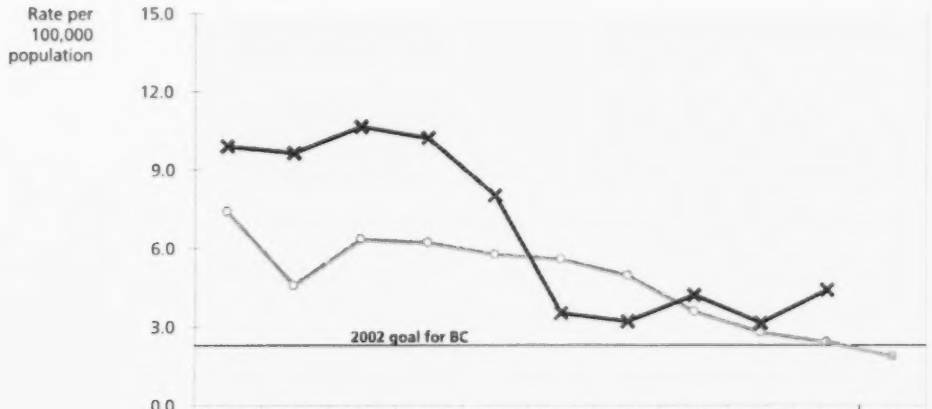
- an interdisciplinary education, training and mentoring program
- an advocacy program to assist patients/families to clearly articulate their needs
- clinical practice guidelines and a process for updating,
- integrated prevention and care management programs,
- statistical models to inform decision making, track indicators and monitor best practices

Models of integrated health services, chronic illness and change management provide the framework for the program. Development of integrated prevention and care programs in each of the 5 Provincial Health Authorities provide opportunities for modelling, testing and refining best practices in diverse communities. Clinical and Public Health databases are used to track outcomes.

Lessons learned

- The issues of managing hepatitis care reach far beyond the disease
- Share templates and resources
- Confront privacy and confidentiality issues
- Measuring outcomes requires standardising inputs
- Foster sharing of information and link databases

Acute Hepatitis B Rates by Year, 1992-2001



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
BC Hepatitis B: Acute Reports	255	163	232	233	224	221	197	143	113	98	70
BC Hepatitis B: Acute Rate	7.3	4.6	6.3	6.2	5.8	5.6	4.9	3.6	2.8	2.4	1.7
Canadian Hepatitis B Rate	9.9	9.6	10.6	10.2	8.0	3.5	3.2	4.2	3.1	4.4	

*Numbers for year 2002 are projected based on annualized rate observed year to date.
Note: National rates for 200 and 2001 are preliminary to change.

Hepatitis Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Eliminate endemic transmission of syphilis, diphtheria, polio, measles, mumps, rubella, haemophilus influenzae type b, hepatitis b

Sub Goal A

Through the discovery and application of evidence based best practices improve hepatitis prevention by reducing the incidence of hepatitis B by 25% within five years.

Strategy

- Enhanced hepatitis B immunization programs.
- Risk reduction initiatives in high risk sub-populations including First Nations / Aboriginal populations.
- Measuring prevention outcomes by enhanced epidemiological surveillance.
- Coordinating and developing multifaceted educational and mentorship programs for professionals utilizing leading edge communication strategies e.g. web based video streaming.
- Partnering with consumers, non governmental agencies, and health services to share knowledge and experience to enhance prevention and treatment effectiveness.
- Using demonstration pilots to assess the utility of regional integrated hepatitis prevention and care management programs to enhance local access to services.
- Promulgate Best Practice in hepatitis prevention and care to achieve an 80% utilization rate within five years.

Hepatitis Services Objectives and Performance Measures Related to Goal 1-A

2002 – '03 Objectives	Performance Measure
Implementation and evaluation of universal hepatitis B infant Program.	Immunization rate. Incidence rate post immunization.
Evaluation of hepatitis B grade 6 program.	Immunization rate. Incidence rate post immunization.
Serologic testing in support of BC Ambulance Service employees to achieve > 90% immunity.	Serologic immunity > 90%.
Initiate risk reduction for hepatitis B in at least one high risk group by developing a joint strategy with representatives of a high risk population group.	Formal partnership with a risk group or their representatives.
Begin implementation of Best Practice for prevention and treatment by developing and testing core curriculum for training and education concerning hepatitis B – Best Practice.	Participant ratings and endorsement by stakeholder groups.
Integrate Hepatitis B prevention and treatment into at least two of five pilot demonstration sites.	Hepatitis B prevention and care strategies formalized into two pilot sites.

Goal One:

Eliminate and Control Communicable Diseases

Achieve effective control for tuberculosis, HIV, hepatitis A, hepatitis C, gonorrhea, chlamydia, pertussis and influenza.

Sub Goal B

Through the discovery and application of evidence based best practices improve hepatitis prevention by reducing the incidence of hepatitis A by 25% and hepatitis C by 10% within five years.

Strategy

- Enhanced hepatitis A immunization programs.
- Risk reduction initiatives in high risk sub-populations including First Nations / Aboriginal populations.
- Measuring prevention outcomes by enhanced epidemiological surveillance.
- Coordinating and developing multifaceted educational and mentorship programs for professionals utilizing leading edge communication strategies e.g. web based video streaming.
- Partnering with consumers, non governmental agencies, and health services to share knowledge and experience to enhance prevention and treatment effectiveness.
- Using demonstration pilots to assess the utility of regional integrated hepatitis prevention and care management programs to enhance local access to services.
- Promulgate Best Practice in hepatitis prevention and care to achieve an 80% utilization rate within five years.

Hepatitis Services Objectives and Performance Measures Related to Goals 1 B

2002 – '03 Objectives	Performance Measure
Improve hepatitis C surveillance by amending CD Regulations to make hepatitis C reportable as acute/chronic.	Regulation adopted.
Initiate hepatitis A and C risk reduction in a high risk group.	Joint strategy developed.
Implement a laboratory based acute hepatitis C diagnostic algorithm and evaluate current risk factors for new cases.	Algorithm developed. # of new acute cases.
Implement an acute treatment program for hepatitis C.	Protocol developed.
Begin implementation of Best Practice for prevention and treatment by developing and testing core curriculum for training and education concerning hepatitis A and C – Best Practice.	Participant ratings and endorsement by stakeholder groups.
Integrate Hepatitis A and C prevention and treatment into at least three of five pilot demonstration sites.	Hepatitis A and C prevention and care strategies formalized into three pilot sites.

Hepatitis Performance Planning

Goal Two:

Protect and Respond to New Disease Threats

Develop institutional mechanisms to rapidly recognizing the response to an emerging infectious disease threats to health.

Sub Goal A

Improve detection of acute hepatitis C as emerging treatment technology offers a cure if treatment is commenced early.

Strategy

- Improve surveillance linkages with laboratories throughout the province.
- Screen high risk groups and employ social network analysis to improve case finding.
- Educate primary care practitioners regarding disease recognition and Best Practice treatments.

Hepatitis Services Objectives and Performance Measures Related to Goal 2 A

2002 – '03 Objectives	Performance Measure
Develop mathematical model to improve understanding of hepatitis outcomes.	Hepatitis mathematical model accepted by Provincial Advisory Committee.
Improve early treatment of acute hepatitis C by Hepatitis Program participating in primary care reform, lab reform, and information management reform.	Formal participation in external committees related to the three critical areas of health reform.
In partnership with the Canadian Liver Foundation establish a Hepatitis medical Education position in BC.	Letter of Agreement and joint funding secured by end of fiscal year.

Goal Three:

Develop Advanced Information

Develop advanced distributive information system for surveillance alert for performance monitoring purpose and health.

Sub Goal A

Development of an integrated data base to track treatment and infections rate so that 95% of screened and/or infected persons are captured by the data, and specific outcomes are monitored, and clinical strategies can be assessed for cost-effectiveness.

Strategy

- Develop standardized coding systems to track events in population cohorts and to link laboratory results to clinical states to improve cohort tracking.
- Develop a communicable disease data repository to track and evaluate intervention effectiveness.
- Explore the development of a specific module within the Public Health Information System (PHIS) to address hepatitis.
- Explore with the Regional Health Authorities opportunities to improve hepatitis surveillance and outcome monitoring through emerging information management capacities within the Health Authority based pilot sites.
- Collaborate with Health Canada and the Canadian Viral Hepatitis Network to achieve intellectual and funding support for information management developments concerning hepatitis in BC.
- Work with BC hepatitis specialist physicians to develop information management capacities that support both prevention and care functions, supports physician and nursing practice requirements, and supports provincial disease management, policy and planning

Hepatitis Services Objectives and Performance Measures Related to Goals 3 A and B

2002 – '03 Objectives	Performance Measure
Completion of Functional Requirements study.	Sign off on study by BCCDC Hepatitis Program and Information Management.
Privacy Impact Assessment for data sharing.	Acceptance of statement by BC Privacy Commissioner and Health Canada.
Completion of IM SWOT analysis of each of the pilot demonstration sites.	Analysis endorsed by Health Authority and BCCDC.
Cost sharing of IM development.	% contribution from external sources.
Analysis of Rebetron treatment outcomes.	Report of results.
Statistical analysis and demographics of 36,000 BC known HCV cases.	Report of results.

Hepatitis Performance Planning

Goal Four:

Foster Applied Research & Innovation

Establish an environment which fosters discovery of research findings of international significance and which contributes to evidence based policy development.

Sub Goal A

Attract research funding and scientists to improve hepatitis knowledge and attract expertise to British Columbia.

Strategy

- Assure privacy and use the BCCDC hepatitis data base to attract researchers.
- Partner with innovation at BCCDC in the areas of genome science, mathematical modeling, laboratory innovation, and epidemiology to foster hepatitis research.
- Seek external funding through pharmaceutical industry, CHRN, CVHN, and Health Canada.

Hepatitis Services Objectives and Performance Measures Related to Goal 4 A

2002 – '03 Objectives	Performance Measure
2 peer reviewed publications.	# of original publications coming from UBCCDC/ BCCDC.
$50,000 in new extramural grants and contracts.	Value of research grants awarded to UBCCDC/ BCCDC.

Goal Five:

Maintain Public Health Excellence

Promote and develop the skills of highly qualified persons to sustain and support state of the art public health services throughout the province.

Sub Goal A

Define, continuously update and implement hepatitis Best Practice throughout British Columbia in order to achieve a compliance rate of at least 80% within five years.

Strategy

- Develop an integrated viral hepatitis clinic and teaching program at Vancouver Hospital Health Sciences Centre for health professionals, other service providers, students, patients and families.
- Develop educational tools that can be used by consumers, patients, voluntary agencies, social services and health care providers.
- Establish a partnership with UBC School of Nursing to develop an Education, Mentorship and Advocacy program.
- Collaborate with nursing organizations to develop nurse practitioner training in hepatitis.
- Partner with the BCMA to establish clinical practice guidelines and partner with the Canadian Liver Foundation to support primary care training and reform.
- Use centre based as well as distance learning strategies to promote Best Practice throughout the province.

Hepatitis Services Objectives and Performance Measures Related to Goal 5

2002 – '03 Objectives	Performance Measure
Implement the UBC Nursing Initiative.	Enrollment commenced by 2003.
Complete and promulgate clinical guidelines.	Web based distribution of guidelines.
Implementation and evaluation of at least three centre based training sessions.	Course evaluations.
Orientation and initial training of each pilot site by year end.	Completion of initial orientation and training of five projects.
Finalization of Primary Care training initiative with Canadian Liver Foundation.	Three year funding secured. Business Plan signed off.
National support for BC hepatitis training.	$ contributed.

Goal Six:

Provide Leadership and Support Partnerships

Provide leadership and create alliances in order to facilitate development of an integrated public health system for British Columbia

Sub Goal A

Continue to forge alliances within the PHSA and with community groups, patient advocacy organizations, Health Authorities, Health Canada, Ministries of Health, Canadian Viral Hepatitis Network to discover and promote Best Practice in hepatitis prevention and care.

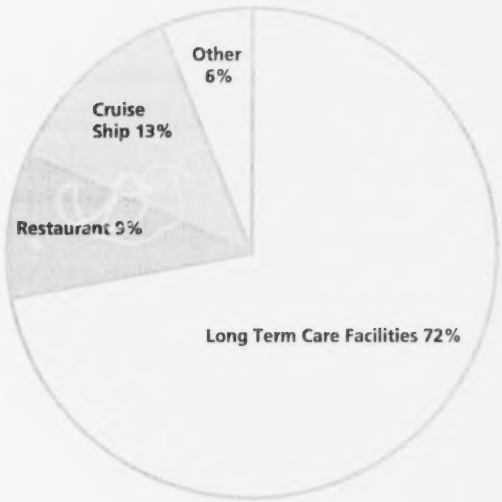
Strategy

- Support the multi stakeholder Provincial Hepatitis Advisory Committee.
- Collaborate with the Health Authorities through funding and supporting a pilot site in each region.
- Support the Canadian Viral Hepatitis Network and Health Canada's efforts to develop Best Practice throughout Canada.
- Provide open access to information through BCCDC web

Hepatitis Services Objectives and Performance Measures Related to Goal 6 A

2002 – '03 Objectives	Performance Measure
Establish pilot projects in each Health Authority by end of fiscal year.	# of pilot sites operational.
Support two meetings of Provincial Hepatitis Advisory Committee.	# of meetings attended with at least 75% participation rate.
Improved web based information access.	% increase in # of hits.
Create a partnership with an aboriginal organization to develop a targeted hepatitis initiative.	Formal terms of reference for a joint initiative completed and signed off.

Laboratory Services

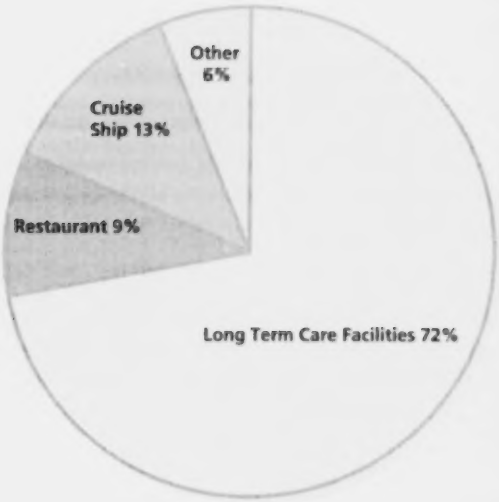


2002 Institutional Location of Confirmed Norovirus Outbreaks

Dr. Judith Isaac-Renton, Director, Laboratory Services

Laboratory Services staff lead the province with its state-of-the-art public health, reference and diagnostic microbiology services. It's team members also provide value-added services including clinical consultations, teaching, research and development in support of the control of communicable diseases. These communicable disease laboratory services are provided in the most cost effective manner with a view to excellence within a Laboratory Quality Management System.

Laboratory Services



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Services include Biosafety and Containment Level 3 Lab Services, Laboratory Quality Assurance, molecular epidemiology testing (microbial fingerprinting), specialty complex laboratory work including testing and consults, environmental health assessments (water and food surveillance), and outbreak detection and management (tuberculosis, enteric, parasitology reference services). Comprehensive reference and virology are also part of the services we provide.

Following our intensive strategic planning, action plans and follow-up took us forward with three clear five-year goals: to be leaders in molecular testing; to be leaders in Laboratory Quality Management Systems; and to be leaders in Laboratory Informatics.

Platforms and Clusters

Over 95% of the strateic planning recommendations were addressed with programmatic development. We now have Platform Technology Teams (Sequencing, Pulsed-Field-Gel Electrophoresis, Nucleic Acid Technologies, TB Spoligotyping and Flow Cytometry), Containment Level 3 and Biosafety, Quality (Staff Development Team, Internal Quality Audit Team, CQI Team and the ISO/QSI Team) and an enhanced Molecular Services which apply scientific strategies to practical problems.

The Leadership Clusters (Environ-mental Services, CL3/TB, Bacteriology, Virology, and Zoonoses/Emerging Pathogens) forge ahead on lab-specific as well as Centre-wide goals. Medical Micro-biologists, Supervisors and Scientists meet to enhance collaborations and partnerships.

Molecular and Electronic Networks

Laboratory Services is active enhancing tools for laboratory surveillance of communicable diseases. A number of new molecular, state-of-the art tests have been introduced by dropping less-valued tests. Enhanced molecular work at a province-wide and national level has been carried out on food-borne (E. coli 0157) and water-borne (Crytosporidium) outbreaks. Earlier detection, investigation and intervention has now become a real-time electronic collaboration through electronic lab networking.

Education

Laboratory Services is also an active centre for academic work with numerous projects underway in many public health related areas. We provide province-wide training for healthcare workers including technologists, physicians, nurses and undergraduate as well as post-graduate medical residents.

Laboratory Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

To assist control strategy programs by providing accurate, appropriate, timely information using cost-effective, appropriate tests.

Strategy

- In partnership with private-public lab sectors and Health Authorities, optimize public health and reference testing in an integrated laboratory framework.
- Using our Laboratory Quality Management System foundation meet DAP then CAP laboratory accreditation standards.
- In partnership with clinician and the laboratory networks, develop utilization management strategies to increase efficiencies in selected testing.
- Introduce, validate and implement state-of-art tests by elimination of less valued tests.
- Further develop provincial laboratory expertise in areas of focus through Staff Development Team activities.

Laboratory Services Objectives and Performance Measures Related to Goal 1

2002 – '03 Objectives	Performance Measure
Maintain Test Turn-Around-Times (TAT) at benchmarked levels while restructuring and downsizing.	Achieve laboratory accreditation in all sections.
Improve Laboratory Quality Standards.	Decrease Quality Incident Reports by 5%.
Improve staff education in target areas.	Increase staff training hours in Molecular Tests and Quality by 5% (hrs/training) over mean of past 3 years.

Goal Two:

Protect and Respond to New Disease Threats

To detect emerging and re-emerging diseases (ERID) using state-of-art laboratory tests and expertise.

Strategy

- In partnership with laboratories throughout BC, communicate to optimize appropriate state-of-the art communicable disease testing.
- Validate and implement new ERID tests based on Good Lab Practice within a developing Laboratory Quality Management System.
- Pursue external funding for ERID in a Laboratory Bioterrorism Network by developing links with national as well as provincial and regional partners.
- In partnership with private-public laboratories, water purveyors, the Provincial Health Office, the Ministry of Health Staff and the Provincial Health Office, the Ministry of Health staff and Medical/Environmental Health Officers, assess establishment of a laboratory network for water testing that is based on Laboratory Quality Management water principles and that will address anticipated increases in drinking water testing.

Laboratory Services Objectives and Performance Measures Related to Goal 2

2002 – '03 Objectives	Performance Measure
Find resources to support a Quality Manager (QM) for both Clinical and Environmental Services.	Recruit an experienced, senior laboratory person trained in principals or Laboratory Quality Management.
Establishment of Good Lab Practices (Total Quality Management System) in molecular services and reference water sections.	Sections pass mock accreditation with SOPs in place.
Begin development of BC Laboratory Bioterrorism Response Network.	Survey BC labs and submit applications to obtain external funding for BT related educational and test validation services.
Partner with the Canadian Public Health Laboratory Forum to assess drinking water testing programs.	Survey CPHL (Canadian Public Health Lab) members regarding Quality, Proficiency Testing and Lab Test Surveillance Procedures related to drinking water.

Laboratory Performance Planning

Goal Three:

Develop Advanced Information

- To lead Canada in molecular fingerprinting that interfaces with PHIS informatics using a Laboratory Data Management System (LDMS) repository.
- To work with partners on Laboratory Quality Management Systems based informatics projects including enhanced Lab Communicable Disease reporting, water and clinical date interchange, and ISO document control.

Strategy

- In partnership with laboratory and clinical partners, enhance outbreak detection and laboratory surveillance by applyng for resources from Health Canada to develop the Bio-numeric-PHIS Project.
- Provide leadership in development of Quality Software/ISO Project in partnership with the BCCDC Information Management Division.
- Collaborate on water testing informatics within a Quality Management framework and a provincial laboratory network.

Laboratory Services Objectives and Performance Measures Related to Goal 3

2002 – '03 Objectives	Performance Measure
Provide leadership in Environmental Services by assessing a public health based method for bi-directional data exchange.	Completion of a pilot project with electronic data exchange of lab requests and results.
Collaborate with Health Canada on a data repository for clinical and environmental test results.	Communicate then develop a MOU requesting assessment of a LDMS model repository.
Continue development of joint IM/Labs Quality Software (QSI) Project.	25% of laboratory SOPs in QSI.

Goal Four:

Foster Applied Research & Innovation

To develop research collaborations and obtain external funding focused primarily on drinking water, virology and biosafety/bioterrorism projects.

Strategy

- Compete to obtain external funding for public health related research projects.
- Develop partnerships and collaborations internally and externally.
- Assign priorities for research guided by Roadmap for Research process.
- Be creative about pressing lab issues.

Laboratory Services Objectives and Performance Measures Related to Goal 4

2002 – '03 Objectives	Performance Measure
Agree with collaborators on priorities for applied research projects and seek external funding.	Meet with national collaborators in targeted areas once and submit funding applications.
Develop a provincial Framework for Laboratory Testing of Drinking Water that has national as well as private-public partnerships.	Create a Drinking Water Business Plan that includes innovative and academic components.

Laboratory Performance Planning

Goal Five:

Maintain Public Health Excellence

- Working with our Laboratory Advisory Committee members and other laboratory partners, develop a laboratory surge capacity for outbreak management and bioterrorism unique (Containment Level 3 Program) events.
- Develop and pilot a Framework for Drinking Water Testing in view of Guidelines for Canadian Drinking Water Testing, current provincial policies, and a BC laboratory network.
- Assist in the development of national strategies for drinking water, environmental protection and bioterrorism response.

Strategy

- Further develop excellence through province-wide and national collaborations in public health and reference level Microbiology Services.
- Further enhance partnerships in a laboratory network with critical laboratory technical and physician workforce shortages in mind (professional human resource challenges) and to further optimize testing.

Laboratory Services Objectives and Performance Measures Related to Goal 5

2002 – '03 Objectives	Performance Measure
Develop laboratory partnerships regionally and nationally to assess how much laboratory surge is needed and to develop follow-up plans with our partners.	Meet once at a national and once at a regional level to plan within a laboratory network.
Assist the provincial Biological Response Advisory Team (BRAT) plan further.	Meet with BRAT, BC BC and other and PHSA partners to plan opportunities for shared CL3/BS Services.
Provide leadership related to bioterrorism, and Biosafety Services (BS) Laboratory programs in BC.	

Goal Six:

Provide Leadership and Support Partnerships

In collaboration with Provincial Health Service Authority and the Council of Private – Public Labs, take leadership in Public Health and Reference Microbiology.

Strategy

- Partner in an assessment of laboratory test streams that include clinical and environmental samples.
- Use principles of patient/community focused care while finding efficiencies through Quality Management.
- Collaborate with laboratory partners throughout BC to establish efficient inter-laboratory communications.
- Work with a multi-disciplinary team to develop sustainable drinking water testing in BC.

Laboratory Services Objectives and Performance Measures Related to Goal 6

2002 – '03 Objectives	Performance Measure
Host province-wide educational sessions on areas of mutual concern and interest.	Organize and hold two symposia.
Partner with Labs in the PHSA to rationalize testing and optimize cost-efficiencies in a patient-focused framework.	Develop one new partnering relationship in the PHSA to allow us to promote and assess laboratory networking strategies.
	Develop a plan based on cost recovery that addresses the needs of partners in drinking water testing.

Radiation Protection Services

Brian Phillips, Director, Radiation Services

As one of three programs to be transferred to BCCDC, effective April 1, 2002, the role of the Radiation Protection Services (RPS) is to provide programs and services to help protect British Columbians from radiation hazards. Through protection, prevention and health promotion initiatives, RPS strives to help control and reduce the risks of radiation-induced diseases and injuries. Its operates four programs to address the key areas where radiation hazards are risks are found.

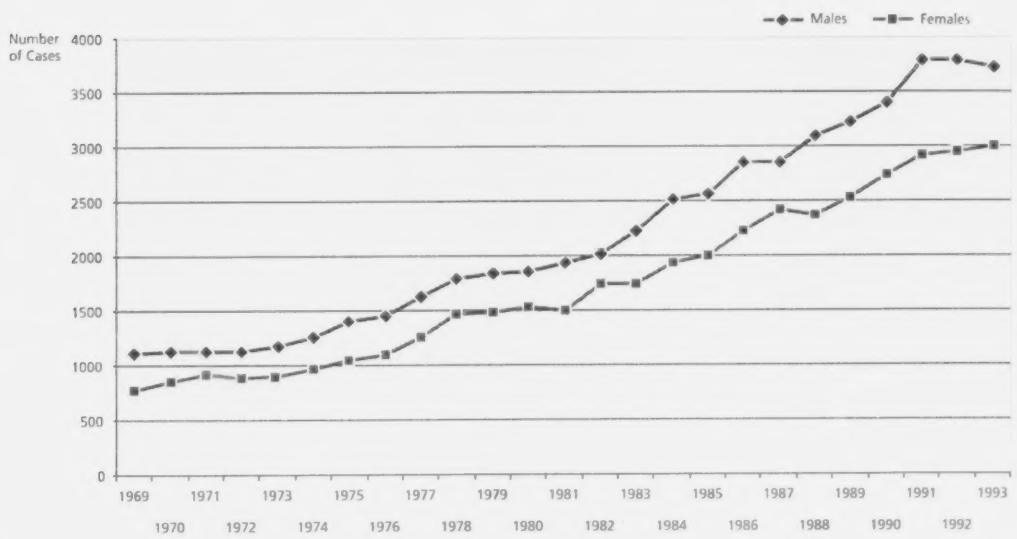
The Medical X-ray Program works closely with the health professions that perform diagnostic radiology procedures to ensure patients, staff and the public are safeguarded. Emphasis is placed on ensuring patient exposures are controlled while obtaining the necessary diagnostic information. New computer controlled X-ray systems and the introduction of digital imaging technology presents new challenges for ensuring that unnecessary increases in exposure do not occur.

The Environmental Radiation and Laboratory Measurements Program focuses on naturally occurring radioactive materials and special radiation facilities located around the province. Concerns include radon gas in homes, schools and other buildings; radioactivity in well water and other supplies; and enhanced radioactivity arising through some industrial processes. The program conducts environmental monitoring at several sites in BC, including at the naval bases where foreign nuclear powered vessels make visits. Analyses for radioactivity content are made on food, water and selected samples.

The non-ionizing radiation and non-medical x-ray program addresses concerns involving ultraviolet radiation; lasers; electromagnetic fields from telecommunication, industrial equipment and electrical distribution systems. A major initiative is to supporting the implementation of a provincial sun awareness and skin cancer prevention strategy, to help reduce the increasing incidence of skin cancer in BC (see attached chart on skin cancer incidence). This program works closely with the Workers Compensation Board of BC concerning workplace hazards from industrial x-ray units and non-ionizing devices.

The fourth program deals with nuclear emergency preparedness and radiation incident/spill response. RPS is on call to assist emergency first line responders to deal with events such as transportation accidents involving vehicles carry radioactive sources. It works closely with the BC Provincial Emergency Program to maintain nuclear emergency response arrangements for any events which could impact British Columbia

Non-Melanoma Skin Cancer Cases Diagnosed in BC. *Data courtesy of the BC Cancer Agency



Radiation Protection Services

Goal One:

Control and Reduce Radiation Related Hazards and Diseases

Sub Goal A

Control and limit exposure from diagnostic radiology procedures, from naturally occurring radioactive materials and nuclear facilities; from x-ray devices used in workplaces, research and education that fall under provincial jurisdiction.

Strategy

- Establish and deliver effective protection, prevention and promotion programs for the medical, dental, chiropractic and veterinary x-ray fields.
- Upgrade the environmental testing system, as applicable to nuclear vessels monitoring

Assist in identification and management of NORM exposures and waste.

- Support the development and implementation of non-medical x-ray safety and health initiatives in industrial, research and teaching settings, in cooperation with the Workers Compensation Board and other agencies

Radiation Protection Objectives and Performance Measures Related to Goal 1

2002 – '03 Objectives	Performance Measure
Health Professions participation in the medical x-ray Partnership Program.	Signed agreements with 5 Colleges, QMPs developed and surveys started.
Complete redevelopment of nuclear vessels monitoring program and implement the new program procedures	New methods established Intercomparisons done Program fully operational
All NORM issues are successfully addressed through exposure control and waste management processes.	# of issues successfully addressed
Protocols will be developed and accepted by the responsible agency to address non-medical x-ray hazards in workplaces & education facilities.	Agency approval of protocols within six months of development.

Goal One:

Control and Reduce Radiation Related Hazards and Diseases

Sub Goal B

Prevent damage to eyes, skin and other organs and tissues that can result from excessive exposures to high power laser and other optical radiation and to electromagnetic fields emitted from electrically energized devices..

Strategy

- Support the development and delivery of environmental health programs with regional health authorities concerning personal services facilities, such as tanning salons and laser skin treatments, and for the occupational health and safety programs in industry, research and educational facilities by
- ensuring protection is provided for all persons at high power (Class 3b and 4) laser facilities;
- ensuring tanning salon facilities meet applicable standards for operating, as specified in the personal services regulations;
- ensuring that high power radio and other transmitting systems do not expose the public and workers in excess of standards;
- provide timely and current information on the hazards of and the protection from various non-ionizing radiation sources

Radiation Protection Objectives and Performance Measures Related to Goal 1

2002 – '03 Objectives	Performance Measure
Develop laser safety guides for use by EHO and WCB inspectors, based on RPS assessments of hazards for various laser applications	# of laser safety guides developed for regulatory agencies
Health Authorities supported to ensure tanning salon facilities conform to legislation & guidelines.	Updated materials for Health Authorities (HAs) supplied within one week of request Improvement in facility compliance rates in HAs
All existing and new systems radio or other high power RF devices assessed for conformity with applicable standards and corrective action taken if needed.	% of systems assessed. Compliance rate. Successful remediation rate.
Radiation Issue notes are developed and communicated within two weeks of a non-ionizing radiation issue arising and being evaluated. Information posted to the web site within 4 weeks.	% of issues communicated within time targets.

Radiation Protection Services

Goal One:

Control and Reduce Radiation Related Hazards and Diseases

Sub Goal C

Reduce skin cancer incidence and mortality associated with exposure to the sun's ultraviolet radiation.

Strategy

- Promote the implementation of the provincial Sun Awareness and Skin Cancer Prevention Strategy, by coordinating and facilitating external programs and initiatives through a Provincial Action Committee.
- Re-establish a data reporting process on skin cancer incidence and mortality, to identify current disease trends for British Columbia.
- Ensure up to date information is made available for health authority staff who are actively involved in organizing annual sun awareness events.
- Liaise with federal and other health and environment agencies regarding their programs and initiatives, to take advantage of their resources and to ensure there is avoidance of overlap and duplication of activities.

Radiation Protection Objectives and Performance Measures Related to Goal 1

2002 – '03 Objectives	Performance Measure
Slow the growth rate of skin cancer incidence in order to achieve a zero growth rate by year 2005.	Year over year incidence rate of new skin cancers.
Support the Provincial Action Committee's coordination of the five settings identified in the Provincial Sun Awareness and Skin Cancer Prevention Strategy.	Participation rate in Provincial Action Committee. Strategy follow-through rate in demonstration settings.
Through arrangements with BC Cancer Agency obtain timely and comprehensive epidemiological information about skin cancer incidence and mortality.	Previous years annual BC skin cancer incidence and mortality rates obtained.
Assist health authorities to carry our local/regional sun awareness events and provide updated resource information to public health nursing programs for distribution during annual campaigns organized with other key agencies.	# of events in each health authority. Uptake rate of materials available to Health Authorities.
Identify and promote Best Practice in Radiation Protection.	# of new Best Practice or promising practices identified in the literature, through federal/provincial collaboration, or international conferences. # of new Best Practices adopted by Health Authorities.

Goal Two:

Protect and Respond to New Disease Threats

Sub Goal

Develop institutional mechanisms to rapidly recognizing new hazards, to investigate their occurrence and initiate protective actions.

Strategy

- Maintain expertise in the program staff who are charged with the responsibility to identify occurrences and new threats arising from events within BC, Canada and around the world.
- Maintain an on-going awareness of developments in the scientific and technical disciplines concerning new hazards and changes to existing ones,
- Establish reporting mechanisms that provide RPS and other key agencies with early notification of events resulting in or having the potential to cause injury, illness or significant overexposure.
- Establish an incident reporting system to identify and track incidents where overexposures and injuries occur.
- Issue hazard alerts to key persons and organizations when a potential or actual serious health risk exists.

Radiation Protection Objectives and Performance Measures Related to Goal 2

2002 – '03 Objectives	Performance Measure
Incident reporting arrangements developed in collaboration with stakeholders for key program areas by June 2003	# of incident reporting protocols established by June 2003.
Emerging issues identified and incorporated into program area surveillance and reporting.	# of issues identified and incorporated into surveillance protocols.
Hazard alerts issued within 24hrs of the notification of a serious risk and within 72 hrs for minor items.	Time between hazard recognition and alert communication.
Health emergency response arrangements to address CBRN incidents developed in conjunction with HAs and other agencies.	Project plan signed off and implemented to develop public health resource aid for the healthcare industry.

Radiation Protection Services

Goal Three:

Develop Advanced Information

Sub Goal

Develop systems for the capture and distribution of information to a wide range of clients needing program or other resources for radiation protection.

Strategy

- Collect medical x-ray partnership program inspection data for review.
- Establish on-line linkage to National Dose Registry of Canada.
- Maintain a current RPS web site, with program information & links.
- Work closely with BCCDC Information Management group to access support resources; and work with other partners to complete projects currently under development.

Radiation Protection Objectives and Performance Measures Related to Goal 3

2002 – '03 Objectives	Performance Measure
Completion of the XRW 4.1 and XSMS software programs for the x-ray partnership program.	Software adopted by x-ray partnership groups. Data transfer protocol plan developed.
Develop project plan and agreement with Health Canada to establish a fully operational link to the National Dose Registry by 2004.	Project plan sign off by Health Canada and BCCDC.
Radiation protection component created on BCCDC web site and routinely updated by Radiation Protection Services.	# of hits on the Radiation Protection sub-component of BCCDC web site.

Goal Five:

Maintain Public Health Excellence

Sub Goal

Promote and develop the skills of highly qualified persons to sustain and support state of the art Radiation Protection services throughout the province.

Strategy

- Maintain and improve training commitment for RPS staff.
- Contribute to the training of individuals in the fields of environmental, public and occupational health concerning radiation protection matters.
- Assist with the development and delivery of education, training, and familiarization programs delivered through local universities, colleges, and other settings where professionals receive education.
- Keep RPS staff trained in Best Practices and leading edge technology.
- Maintain regular contact with developments in other jurisdictions.
- Operate a provincial radiation measurements laboratory, equipped with essential bench and field analytical instrumentation, dosimetry systems and related resources in support of environmental radiation hazard assessments and for program operational support.

Radiation Protection Objectives and Performance Measures Related to Goal 5

2002 – '03 Objectives	Performance Measure
One review completed in each program area per year.	# of reviews completed/year
Each program area undertakes at least one research initiative / year.	# of research initiatives / year
Establish at least one new link with the local research community.	# of links established per year

Goal Six:

Provide Leadership and Support Partnerships

Sub Goal

Foster the role of Radiation Protection Services as the lead agency for radiation protection in British Columbia and as a key resource for Canada.

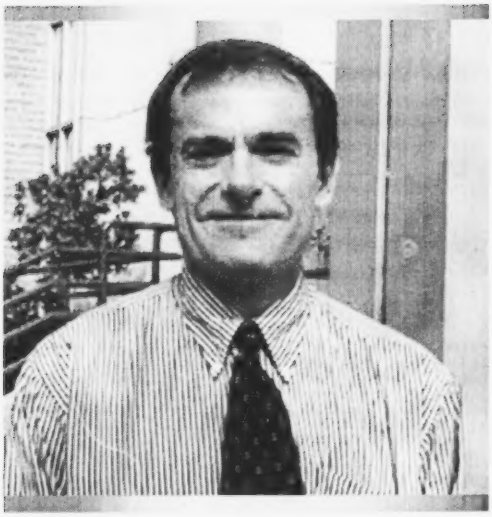
Strategy

- Develop and enhance the alliances and partnerships with various organizations, including the following: universities and colleges; regional health authorities; agencies in the Provincial Health Services Authority; the WCB; BC health professions' Colleges/Associations; national organizations such as the Canadian Cancer Society and the Canadian Dermatology Association; and with various international organizations in the field of radiation protection.
- Represent BC at the annual meetings of the Federal-Provincial-Territorial Radiation Protection Committee and other federal-provincial meetings concerning radiation protection and nuclear emergency preparedness arrangements affecting the province.
- Make contact and consult regularly with key organizations concerning RPS business planning and its operational activities for each of the program areas, to achieve effective outcomes in service delivery.
- In co-operation with Health Authorities and other levels of government, host or co-organize national, regional or local conferences.

Radiation Protection Objectives and Performance Measures Related to Goal 6

2002 – '03 Objectives	Performance Measure
Staff attends and reports on at least one relevant conference/workshop per year.	Participation rate. Course/event evaluations.
Staff present at seminars, workshops, and educational sessions throughout BC and at national conferences.	#/ types of presentations made by staff.
Emergency backup and on-site analytical procedures developed to support incident response investigation of contaminated water supplies, etc.	Protocols and equipment established of field assessment of drinking water and scrap metal items.
Establish a medical x-ray radiation protection surveyor training program utilizing BCIT education programs	# agreements established with other agencies. Training course established and introduced into use in April 2003

STD/AIDS Control



Dr. Michael Rekart, Director

STD/AIDS Control monitors and directs province wide efforts to reduce the spread of sexually transmitted diseases (STDs) and HIV and to minimize their adverse health effects in British Columbia.

Policies and procedures for prevention, management and control of STDs and HIV are recommended by STD/AIDS Control and expert consultation is available to public health practitioners for the diagnoses and management of these diseases. A central registry and reporting system for reportable cases of STDs and AIDS is maintained and monitored.

An STD/HIV clinic is operated by the program to provide ambulatory, free and confidential assessment, treatment and education on STDs as well as counseling and referral for those who are HIV positive. The clinic provides an excellent venue for ongoing clinical research and is used as the major provincial training site in STDs and HIV testing and counselling for medical residents, interns and public health nurses.

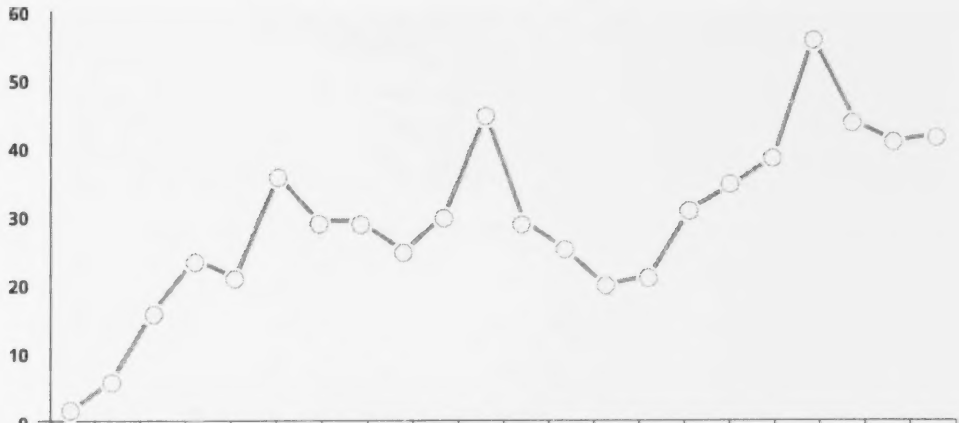
The STD/AIDS Prevention Street Nurse Program is aimed at reducing the transmission of STDs and HIV amongst street-involved persons. The program is focused on STD/HIV education, testing, diagnosis and management. Support and advocacy, crisis counseling, first aid and medical and social service referrals are provided. The program also serves as the major provincial training site for STD/HIV outreach.

The Chee Mamuk Aboriginal Program provides on-site STD, HIV/AIDS and hepatitis education to Aboriginal communities on and off reserve. The program provides high quality community-based workshops and professional development training for Aboriginal health and human service workers, and Band and Tribal councils in order to plan and deliver culturally sensitive and sound education sessions.

The STD/AIDS Education and Training Department provides training programs in STD diagnosis and treatment, HIV testing and counseling and STD outreach nursing.

STD/AIDS Control is supported by its Resource Centre which provides information on STD/HIV/AIDS to health care practitioners, schools, businesses and the public in a variety of media.

Infectious syphilis by quarter for 1997 – 2002



	1st 1997	2nd 1997	3rd 1997	4th 1997	1st 1998	3rd 1998	4th 1998	1st 1999	2nd 1999	3rd 1999	4th 1999	1st 2000	2nd 2000	3rd 2000	4th 2000	2nd 2001	3rd 2001	4th 2001	1st 2002	2nd 2002
Province	2	6	16	24	21	29	29	25	30	45	29	25	20	21	31	39	56	44	41	42

Since the summer of 1997, the rate of infectious syphilis has increased despite intensive contact tracing. In early 2000, a four week azithromyocin blitz was carried out causing a nonsustained drop in syphilis. We are now modifying our contact tracing approach through Social Network Analysis (interviewing for sexual, social and drug connections) in an attempt to address the epidemic

STD/AIDS Control Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal A

Eliminate endemic transmission of syphilis, diphtheria, pertussis, polio, measles, mumps, rubella, haemophilus influenzae type b, hepatitis b.

Eliminate Syphilis by 2006 (<0.5/100,000).

Strategy

- Incorporate social network analysis (SNA) as a regular case finding strategy such that 10% of new cases will be identified by SNA by 2004 by implementing the following tactics
  - send 6 STD staff to CDC training program in Seattle (Feb 2002)
  - bring US experts to BCCDC to set up electronic system for case mapping and to train STD Control staff in SNA
  - implement SNA pilot with designated staff, as per recommendations from CDC
- Pilot/implement peer education involving sex workers, johns and/or gay men in order to establish 10 trained and active peer educators by2005 by implementation of the following tactics
  - locate, review and adapt successful program
  - assign street nurse(s) to coordinate and lead peer education program
  - develop and deliver training curriculum
  - implement pilot
- Develop and implement mass testing and/or treatment intervention such that at least one mass intervention is delivered by 2005 by implementation of the following tactics
  - develop mathematical model to guide mass treatment decision making
  - identify rapid syphilis test with acceptable sensitivity and specificity
  - institute peer educator team (see strategy above)
  - assess community support and collaborate in the planning
  - deliver and evaluate intervention

STD/AIDS Objectives and Performance Measures Related to Goal 1-A

2002 – '03 Objectives	Performance Measure
Train specific staff in Social Network Analysis (SNA).	Proportion of all staff trained in SNA.
Find suitable SNA model.	Model identified.
Find rapid syphilis test suitable for mass treatment campaign.	Test identified.

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal B

Achieve effective control for tuberculosis, HIV, hepatitis A, hepatitis C, gonorrhea, chlamydia, pertussis and influenza.

Decrease HIV transmission in gay men, injection drug users, and aboriginal people

Strategy

- Support implementation of Moving Ahead: Assessing Gay Men's HIV Prevention in BC
- In the short term, increase awareness, assess gay men's needs, strengthen prevention programs, increase street nurse efforts, increase services to bathhouses.
- In the long term, build capacity for evidence-based planning, development of collaborative planning framework, implement planning cycle, creation of sustainable service organization devoted to HIV prevention in gay men.
- Evaluate usefulness of social network analysis for HIV control in gay men.
- Evaluate role of HIV rapid, POC tests in HIV control for gay men.
- Determine attributable risk of alcohol and drug use for HIV infection and develop tactics to decrease this risk.
- Support/lead Supervised Injection Site (SIS) initiative.
- Support/participate in Heroin Prescription Trial (HPT) initiative.
- Evaluate usefulness of social network analysis for HIV control in IDUs.
- Evaluate role of HIV rapid, POC tests in HIV Control for IDUs.
- Reduce stigma and improve acceptance by increasing number of Aboriginal ommunities and agencies through specific, supportive HIV/AIDS policies.
- Increase awareness among Aboriginal youth by focusing Chee Mamuk activities on STD/HIV/AIDS/hepatitis education in schools.
- Evaluate SNA and HIV rapid testing in HIV control for Aboriginals.

STD/AIDS Objectives and Performance Measures Related to Goal 1-B

2002 – '03 Objectives	Performance Measure
Decrease HIV in gay men.	Zero % increase.
Decrease HIV in IDUs by 5%.	Rate of new infection.
Engage Chee Mamuk to focus STD/HIV AIDS/ hepatitis education in at least five schools.	# of schools providing education program.

STD/AIDS Control Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal C

Achieve effective control for tuberculosis, HIV, hepatitis A, hepatitis C, gonorrhea, chlamydia, pertussis and influenza.

Achieve better control of Chlamydia by obtaining a reliable estimate of Chlamydia prevalence and incidence by 2005, and incidence reduction by 2006.

Strategy

- Increase public awareness of chlamydia such that patient and public surveys will show annual increases in chlamydia awareness and knowledge by 2004 compared to 2003 by implementing the following tactics.
  - initiate public awareness campaign.
  - support regional public awareness campaigns via AIDS Communication Budget.
  - develop and administer annual patient surveys.
  - develop and administer annual public surveys via BCCDC web site.
- Increase appropriate chlamydia testing & screening such that by 2006 testing will increase by 50% and percent positive will increase by 10% through implementation of the following tactics.
  - increase awareness in physicians and health care workers.
  - facilitate revision of Canadian STD Management Guidelines.
  - disseminate Guidelines.
- Develop reliable models to track chlamydia prevalence and incidence which will be utilized by 2005 through implementation of the following tactics.
  - review literature, consult with experts re models.
  - pilot models, revise if necessary.
  - implement revised models and track chlamydia prevalence & incidence.

STD/AIDS Objectives and Performance Measures Related to Goal 1-C

2002 – '03 Objectives	Performance Measure
Increase chlamydia testing by at least 10%.	Testing rate.

Goal Two:

Protect and Respond to New Disease Threats

Sub Goal A

By 2006, the reproductive health risks from sexually transmitted infections (STIs) will decrease by 25% for bacterial STIs and by 10% for viral STIs.

Strategy

· Reduce reproductive health risks from bacterial STIs by:

- increasing chlamydia public awareness and testing (see I.C, #1 and #2 above);
- revise/disseminate Canadian STD Guidelines (see I.C, #1 above);
- expand pregnancy planning support for street youth;
- coordinate/support antibiotic prophylaxis for therapeutic abortions;
- revise PID treatment protocols;
- pilot Women's Health Clinic in DTES with BCCA, Women's Hospital and VCHA;
- assess role of M. genitalis and institute control measures if necessary
- develop Reproductive Health Strategy.

· Reduce reproductive health risks from viral STIs by -

- piloting Women's Health Centre in DTES with BCCA, Women's Hospital and VCHA;
- developing measure to track cervical cancer in these populations;
- increasing PAP screening in Aboriginal women with BCCA and Women's Hospital;
- participating in research re type specific HPV testing;
- identifying appropriate HSV test(s) for routine clinical practice; and promote fee schedule item;
- institute rapid POC test in divisional clinics, determine usage and find ways to reimburse;
- develop Reproductive Health Strategy.

STD/AIDS Objectives and Performance Measures Related to Goal 2-A

2002 – '03 Objectives	Performance Measure
Develop (confidential) reproductive health strategy.	Strategy document completed.

STD/AIDS Control Performance Planning

Goal Two:

Protect and Respond to New Disease Threats

Sub Goal B

Develop Divisional capability to detect and respond to threats from new and re-emerging diseases through a flexible Street Nurse Program.

Strategy

- Increase flexibility and provincial scope of Street Nurse Program by:
  - eliminating primary care, home care and van functions;
  - offering outreach/street needs assessments to all Provincial Health Authorities (PHAs);
  - providing training/support to PHAs based on needs assessments;
  - assigning more staff to syphilis and HIV in gay men and TB in DTES;
  - assigning staff to work on Supervised Injection Sites and Heroin Prescription Trials;
  - reformulate Street Nurse Program mandate and functions

STD/AIDS Objectives and Performance Measures Related to Goal 2-B

2002 – '03 Objectives	Performance Measure
Reformulate street nurse program so that homecare, van, and primary care stopped and street nurses shifted to HIV in gay men and Syphilis, TB and STD/HIV.	Completion of changes.

Goal Three:

Develop Advanced Information

Develop advanced distributive information system for surveillance alert for performance monitoring purpose and health.

Sub Goal A

Improve access to STI/HIV/AIDS data and analysis for Medical Health Officers (MHOs), BC public health community, Health Canada and the public.

Strategy

- Develop non-nominal, confidential STI/HIV/AIDS data warehouse with real time statistics, web based password access, standard reports & analyses, and, for selected users, the option to perform customized analyses and produce customized reports ("Soul Access" project).
- Data warehouse will be developed by –
  - gathering input from public health field staff on needs;
  - transcribing STI, HIV and AIDS databases into common language;
  - developing passwords to allow access depending on 'need to know';
  - constructing panel of standard reports;
  - integrating into Impromptu software application;
  - incorporating option for users (esp. MHOs) to run their own specific reports;
  - piloting and evaluate;

STD/AIDS Objectives and Performance Measures Related to Goal 3-A

2002 – '03 Objectives	Performance Measure
Develop "soul access" plan.	Plan competed.

STD/AIDS Control Performance Planning

Goal Four:

Foster Applied Research and Innovation

Establish an environment which fosters discovery of research findings of international significance and which contributes to evidence based policy development

Sub Goal A

Foster applied research & innovation in STD/AIDS Control

Strategy

- Institute a Research Program by hiring an associate Director to lead Research Program;
  - developing research program document supported by stakeholders;
  - collaborating with Laboratory Services on rapid syphilis test, type specific HPV test, accurate HSV test, M. genitalis test (if indicated);
  - working with Program for Applied Technology in Health (PATH) to develop rapid, POC tests for gonorrhea and chlamydia;
  - supporting implementation and quality control for rapid, POC HIV test;
  - developing research questions for Vietnam Project.

STD/AIDS Objectives and Performance Measures Related to Goal 4-A

2002 – '03 Objectives	Performance Measure
Recruitment of Associate Director to lead research program initiated?	Associated Director hired?

Goal Five:

Maintain Public Health Excellence

Sub Goal A

Maintain and improve quality of STD/AIDS core programs with increased focus on primary prevention; by 2006, reduce new case reports of gonorrhea by 30%.

Strategy

- Promote and develop the skills of staff to sustain and support quality programs by:
  - developing training goals for each staff member;
  - encouraging and supporting training and advancement;
  - conducting and expanding strategic planning on a regular basis;
  - developing and conducting annual performance appraisals;
  - improving epidemiology/surveillance through liaison with epidemiology staff;
  - implementing regular client, staff & stakeholder surveys;
  - participating at Health Officers Council;
  - supporting sex education curriculum for schools;
  - developing new initiatives to reduce cases of gonorrhea;
  - supporting and disseminating revised Canadian STD Management Guidelines.

STD/AIDS Objectives and Performance Measures Related to Goal 5-A

2002 – '03 Objectives	Performance Measure
Training Goals for 30% of staff developed.	Training goals identified and supported for 30% of staff.
Improved support from Epidemiology Division	Staff identified and process for ongoing collaboration defined

Goal Six:

Provide Leadership and Support Partnerships

Sub Goals

A. Increase Chee Mamuk Programs and Services.

B. Increased STI training opportunities for BC public health community.

C. Successfully deliver CIDA sponsored Viet Nam project.

Strategy

- Increase Chee Mamuk by:
  - collaborating with FNIB
  - coordinating activities with other First Nation groups
  - developing FN community resources for Hepatitis, STIs and HIV/AIDS
  - supporting discussion for coordination for Aboriginal Health Services in BC
  - improving aboriginal CD data base, track and analyse
  - increasing number of aboriginal communities with supportive HIV policies
  - increasing educational focus to Aboriginal Schools
  - developing on-line educational resources for CHP's
- Develop distance learning programs (DLPs) by
  - street nurses designing and piloting DLP for outreach training
  - using successful outreach training pilot to develop DLP for STD Management for Public Health Nurses and HIV Pre and Post Counseling courses
  - implementing BC pilots and evaluations
  - implementing ongoing programs
- Successfully deliver CIDA sponsored Viet Nam project by:
  - Get PIP approved
  - Integrate HCCN into divisional activities
  - Develop cost effective model for STI Clinic and Outreach Services
  - Reduce number of vulnerable street youth who take sexual and drug risks
  - Build epidemiology for surveillance and management capacity at HCMC, AIDS Standing Office (HASO)
  - Foster multi-sectoral collaboration

STD/AIDS Objectives and Performance Measures Related to Goal 6-A, B, C

2002 – '03 Objectives	Performance Measure
Supportive HIV/AIDS policies in five Aboriginal agencies and communities.	# of agencies and communities with supportive policies.
Develop distance training for outreach training.	Pilot successfully completed.
Project Implementation Plan developed and submitted to CIDA.	Plan approved by CIDA and Viet Nam partners.

Tuberculosis Control

Dr. Kevin Elwood, Director

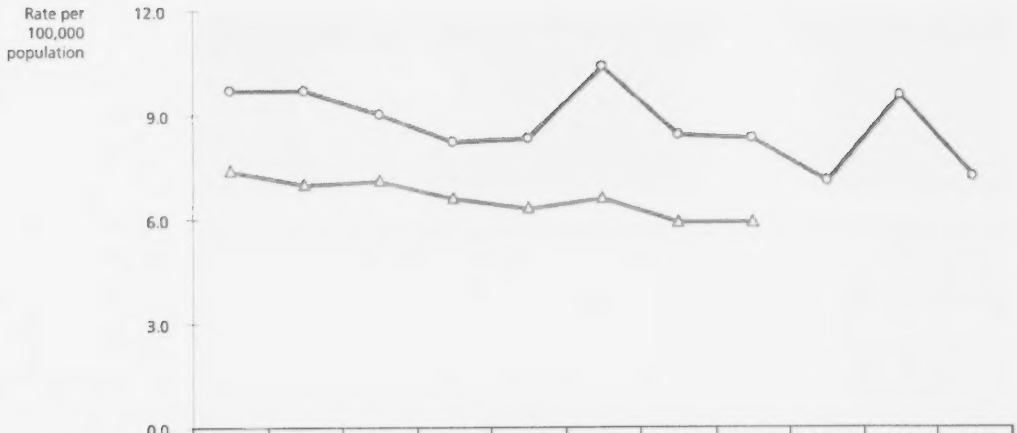
Tuberculosis (TB) Control serves as british Columbia's referral centre for the prevention treatment and control of tuberculosis and maintains and monitors a registry of all active cases of TB in the province. The program's operations aim to ensure a progressive reduction in the annual incidence rate of active tuberculosis and its morbidity and mortality.

Policies and procedures for prevention, management and control of tuberculosis are recommended by TB Control and expert consultation is available to public health and community practitioners for the diagnoses and management of tuberculosis.

Clinic services are provided to the public through outpatient clinics in Vancouver, New Westminster and Victoria; a Street Nurse Program provides supervised treatment for tuberculosis in the downtown east side of Vancouver and Field Operations provides consultative clinics in various locations of the province to service those clients outside of the lower mainland. Tuberculin skin testing, contact tracing, vaccinations, on site X-ray, arrangement of hospital admission for treatment, directly observed treatment and follow-up of active cases, and those referred for post landing surveillance are some of the services provided.

TB Control contracts with the federal government to provided services to Aboriginals living on reserve and contracts with the government of Yukon to provided services to that region.

Tuberculosis Rates by Year, 1992-2002



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
BC Tuberculosis Cases	335	346	332	312	323	413	337	332	290	391	0
BC Tuberculosis Rate	9.7	9.7	9	8.2	8.3	10.4	8.4	8.3	7.1	9.54	7.2
Canadian Tuberculosis Rate	7.4	7	7.1	6.6	6.3	6.6	5.9	5.9			

Tuberculosis Control Performance Planning

Goal One:

Eliminate and Control Communicable Diseases

Sub Goal A

Achieve effective control for tuberculosis, HIV, hepatitis A, hepatitis C, gonorrhea, chlamydia, pertussis and influenza.

Strategy

- Initiate treatment for every case of active disease within 48 hours from the date of diagnosis.
- Provide fully supervised therapy for those at risk for poor compliance.
- Offer preventive treatment to 100% of high risk foreign born cases which are referred for post-landing surveillance.
- Reinforce recommendations for preventative treatment of all appropriate cases.
- Initiate contact tracing of every case of active disease within two weeks.
- Provide for staff safety by ensuring
  - appropriate negative pressure airflow in clinics,
  - staff take full safety precautions against infection
  - screening of medical and support staff as required

TB Objectives and Performance Measures Related to Goal 1-A

2002 – '03 Objectives	Performance Measure
Promptly initiate treatment of every case of active disease such that treatment is initiated within 24 hrs from date of diagnosis.	Time between diagnosis and treatment commencement.
95% treatment completion rate of every case of infectious TB.	Completion rate.
Increase preventative treatment in high risk foreign born cases which are referred for post-landing surveillance.	% offered treatment. % completing treatment.
Increase preventive treatment of all appropriate cases.	% increase in number of cases being offered preventative treatment.
Timely and effective contact tracing of every case of active disease in order to screen 95% of close household contacts and 80% of non household contacts.	% of household contacts screened. % of non household contacts screened.
Minimize risk of TB infection in TBC clinics in order to achieve a zero rate of staff infections.	% infection in staff. % infection in patients through clinic contact with active disease.

Goal Two:

Develop institutional mechanisms to rapidly recognizing the response to an emerging infectious disease threats to health.

Sub Goal A

Rapidly recognize and respond to drug resistant tuberculosis as an emerging infectious disease threat to health.

Strategy

- Review every case of multiple drug resistant (MDR) disease.
- Monitor and assess every case of acquired drug resistance for causation.
- Promptly screen all migrants upon arrival to BC.
- Encourage timely notification from Citizen and Immigration Canada of HIV infected persons entering BC.

TB Objectives and Performance Measures Related to Goal 2-A

2002 – '03 Objectives	Performance Measure
Ensure every case of multiple drug resistance (MDR) disease has appropriate drug treatment and isolation.	% of MDR cases completing treatment.
Causation for every case of acquired MDR will be determined.	% of causal determination.
All apprehended illegal migrants will be screened for active TB within 24 hours of arrival to BC.	% screened within 24 hrs of arrival.

Tuberculosis Control Performance Planning

Goal Three:

Develop advanced distributive information system for surveillance alert for performance monitoring purpose and health.

Sub Goal A

Advanced informatics will be developed for surveillance, alert and performance monitoring purposes of Tuberculosis Control.

Strategy

- Using the TB Module of PHIS to advance informatics in TB Control.
- Assessing and reviewing the optimal information requirements for effective control of tuberculosis and applying the appropriate resource to deliver.
- Assessing advanced medical technology.

TB Objectives and Performance Measures Related to Goal 3-A

2002 – '03 Objectives	Performance Measure
Implement the TB Module in PHIS and assure every TBC employee is trained and appropriately using the TB Module, and that the system achieves zero downtime.	% of staff trained % of appropriate staff using PHIS for case management
Timely and effective epidemiological, statistical, and management information for TBC.	% utilization for epidemiological and statistical reporting % downtime
Assessment of the medical and cost benefits of the Picture Archive and Communication System (PAC) for use in clinical case management will be undertaken.	End user satisfaction rate with quality and timeliness of epidemiological and statistical reports. Decision to utilize technology based upon quality of cost – benefit assessment.

Goal Four:

Establish an environment which fosters discovery of research findings of international significance and which contributes to evidence based policy development

Sub Goal A

Applied research and innovation will be fostered which will contribute to evidence based policy development concerning tuberculosis control and elimination.

Strategy

- Develop a test for organism viability in order to reduce the isolation time for infectious patients.
- Participate in the Clinical Trials Consortium.
- Incorporate Clinical Trial Consortium results in policy and case management for TB control.
- Submit papers for peer review publication.
- Improve early identification of clusters to improve TB control

TB Objectives and Performance Measures Related to Goal 4-A

2002 – '03 Objectives	Performance Measure
Reduce isolation times of TB infectious patients by developing a test for organism viability.	% reduction in isolation time.
Improve clinical case management by adopting advances identified through research and participating in clinical trials.	Participation in at least one clinical trial. # of improvements in case management achieved through application of research knowledge.
Increased participation in research and innovation such that a minimum of three peer reviewed papers are submitted and accepted for publication.	# of papers accepted for publication. # of abstracts submitted for publication.
Use RFLP to fingerprint all cases of culture positive disease and determine the % clustered.	% of cluster positive cases fingerprinted through RFLP technique.

Tuberculosis Control Performance Planning

Goal Five:

Promote and develop the skills of highly qualified persons to sustain and support state of the art public health services throughout the province.

Sub Goal A

Public Health excellence in control of tuberculosis will be maintained by promoting and developing the skills of highly qualified persons.

Strategy

- Developing and implementing training programs leading to certification for tuberculin skin testing.
- Updating the TB section of the CDC Manual to ensure timely access to public health practitioners.
- Developing and offering in-house education and training sessions.

TB Objectives and Performance Measures Related to Goal 5-A

2002 – '03 Objectives	Performance Measure
Tuberculin skin testing is performed consistently and accurately read throughout the province.	% of sample skin tests administered and read correctly.
Public health practitioners will have timely access to clear policy and procedure for effective and efficient control of TB.	% increase of web site visits to on-line policy manual.
Expertise of TBC practitioners will be used to educate and train other health practitioners involved in control and management of TB.	% increase in number of persons attending sessions. Satisfaction rates.

Goal Six:

Provide leadership and create alliances in order to facilitate development of an integrated public health system for British Columbia.

Sub Goal A

Provide leadership and create alliances in order to facilitate the development of an integrated public health system for British Columbia.

Strategy

- Create and maintain partnerships with other agencies to reduce the rates of active TB especially in high-risk areas.
- Continue close liaison and participation with local, national and international committees and agencies.

TB Objectives and Performance Measures Related to Goal 6-A

2002 – '03 Objectives	Performance Measure
Maintain and strengthen the partnership with Vancouver Coastal Health Authority to reduce the rates of active TB disease in the downtown eastside of Vancouver.	Degree of mutual satisfaction with partnership initiatives. Reduction in active TB disease in downtown eastside.
Close liaison and participation in National Committees related to TB control.	# of committees # of presentations at conferences, national, and international events # of partnerships which lead to demonstrable improvement in TB control.

B.C. Drug and Poison Information Centre

Derek Dawes, B.C. Drug and Poison Information Centre

The B.C. Drug and Poison Information Centre (DPIC) serves as the province's drug information centre for health care providers and as the poison control centre for both the general public and health professionals. Its primary mandate is to develop and implement centralized services to assist health professionals in providing optimal levels of drug therapy and poison management in the province.

In addition to the core services mentioned above, DPIC is active in promoting prevention programs aimed at reducing unintentional injuries due to poisoning and adverse effects of drug therapy. Programs are aimed at both the public and the providers of health care throughout B.C.

DPIC is a division of the University of British Columbia, Faculty of Pharmaceutical Sciences and as such has a strong role in educating undergraduate and postgraduate pharmacy students, emergency physicians and nursing students. Emphasis is placed on developing skills whichpromote effective and evidence based drug therapy and management of the poisoned patient.

Surveillance of patterns and trends in drug usage and exposures to toxic agents is a significant component of DPIC's activities. Trend analysis is used to generate signals which may indicate inappropriate drug therapy or potential outbreaks of product related disease.

Findings are communicated to public health officials, licensing agencies for pharmacists and physicians and the National Adverse Drug Reaction Reporting Centre at Health Canada.

DPIC publishes two textbooks in both hard copy and electronic versions. The Drug Information Reference (DIR) focuses on concise, relevant and evidence based drug information and is directed towards health care providers. The Poison Management Manual is used extensively within B.C. and Canada as a reference source for managing poisoned patients.

B.C. Drug and Poison Information Centre Performance Plan

Providing poison information request services to the public.

To develop and implement centralized services to assist health professionals in providing optimal levels of drug therapy and poison management in the province.

Sub Goals – Poison Information

- Information available to health care professionals through out B.C. 24 hours/day, 365 days/year;
- 24 hour toll-free poison information is available for the public by calling 682-5050 (Lower Mainland) or 1-800-567-8911 in remainder of B.C.;
- The Poison Management Manual (PMM) and treatment
- Protocols for managing the poisoned patients are made available to all Emergency departments in the province. The PMM is used extensively across Canada;
- Poison Perspectives Newsletter is produced quarterly and distributed to health care professionals in acute care hospitals and public health units.

Sub Goals – Drug Information

- A telephone Drug Information consultation service is available via toll-free access to health professionals from 0900-1600 hours weekdays. Pharmacists skilled in information retrieval and evaluation aid pharmacists, physicians and nurses throughout B.C. in identifying and solving patient-specific drug-related problems.
- Medication safety issues such as drug interactions, drug use in pregnancy and lactation, appropriate dosing, and side effects to both conventional and alternative therapies are frequent queries.

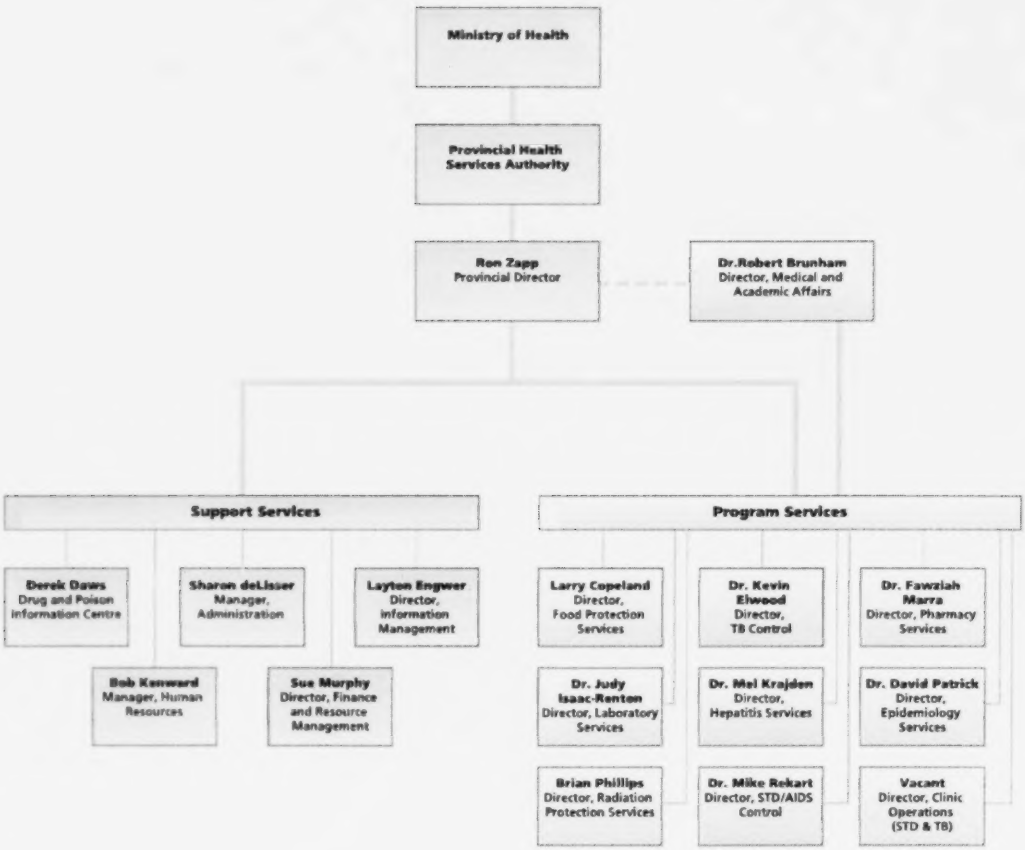
BC Drug & Poison Information Objectives Related to Goals

2002 – '03 Objectives	Performance Measure
Poison Information	**Drug Information**
Extend poison control services to the Yukon Territory	Promote and evaluate the toll free drug information telephone system
Evaluate the impact of the fomepizole antidote protocol on methanol and ethylene glycol poisoning	Publish the new edition of the Drug Information Reference
Establish the antidote inventory and supply system	Implement the DPIC web site
Establish the chemical terrorism response plan	Formulate a business plan to establish a regional vaccine adverse effects reporting program in cooperation with BCCDC and Health Canada
Focus the poison prevention programs towards the adolescent and elderly populations	
Determine the feasibility of linking BCCDC and Poison Control case records for the purpose of establishing surveillance systems for food and water borne diseases	
Recompile statistical reports to report the incidence of poisonings according to the new Health Authorities	

Service Framework

We respect and support each other. The rights and needs of each one of us are important to all of us. We all have the right to be heard in the decisions that affect us.

BCCDCManagement Team



BCCDC values the importance of open communication for the fulfilment of its mandate.

Accountability

BCCDC's Provincial Director is responsible for BCCDC and is accountable to the Board of Directors for sound management in accordance with the highest public and private sector standards. The major task of the Provincial Director is to successfully implement the annual Performance Plan in conjunction with UBC. To that end the Provincial Director ensures that the organizational structure supports BCCDC's mandate, objectives and targets as stated in the Service and Financial Plans.

- BCCDC embraces a service excellence ethic in all client relations.
- BCCDC offers high quality accessible services.
- BCCDC respects human dignity and the confidentiality of personal information.

BCCDC's Provincial Director and the Director of Finance and Resource Management are delegated authority to determine BCCDC's practices and policies with respect to freedom of information and protection of privacy.

This Performance Plan is publicly available.

Communications

BCCDC employs a comprehensive communications strategy to:

- Address corporate image and profile.
- Respond quickly to the public's "need to know".
- Inform and educate the people of British Columbia.
- Provide an enhanced broadcast and print media relations capacity.
- Freely share information among ourselves.
- Maintain open channels of communication between ourselves and our clients.

Service Framework

Sharon deLisser, Manager, Administration

Administration

The provision of centralized administration and support services has played an important role in improving efficiencies within the BC Centre for Disease Control (BCCDC) by allowing for the re-allocation and streamlining of resources.

With support and assistance from the Administration Business Centre the Manager of Administration liaises with BC Building Corporation on all matters pertaining to security and management of the facility; works with the Provincial Health Services Authority and the Provincial Director to facilitate corporate communications activities; and handles all requests for Freedom of Information for the centre from inception to completion.

Administration Business Centre (ABC)

The Administration Business Centre team, comprised of 5.4 full time employees, provides a full range of centralized clerical and administrative support services to all Divisions. The Administration Business Centre has become the core print production facility for the center, which has allowed for significant reductions in offsite printing costs. Costs recovery are also enjoyed through the provision of select services where logistics permit, to external agencies.

This team manages a small learning center and registers all staff for training in desktop applications as required to promote development. They administer many of the corporate recognition programs and events such as the Employee Suggestion, Long Term Service Awards and the Annual SummerFest Bar-b-que to name just a few.

TB Administration

This newly re-organized centralized team of four will work toward streamlining processes for TB Administration and Clinic Operations. With a continually improving knowledge base they will provide efficient, accurate support to both the Division and the rest of the center, through increased flexibility in the provision of backup services during both vacations and other peak periods.

TB Administration – New Westminster Clinic

Tuberculosis Control's New Westminster Administration team works toward streamlining administrative processes to enhance the service they provide to this busy Clinic in St. Mary's Hospital. This team continues to enhance their knowledge base by upgrading their skills (PHIS, spreadsheets, databases) and cross training, in order to affect timely, reliable support to the clinic through enhanced flexibility in the provision of backup service during vacation and other busy periods.

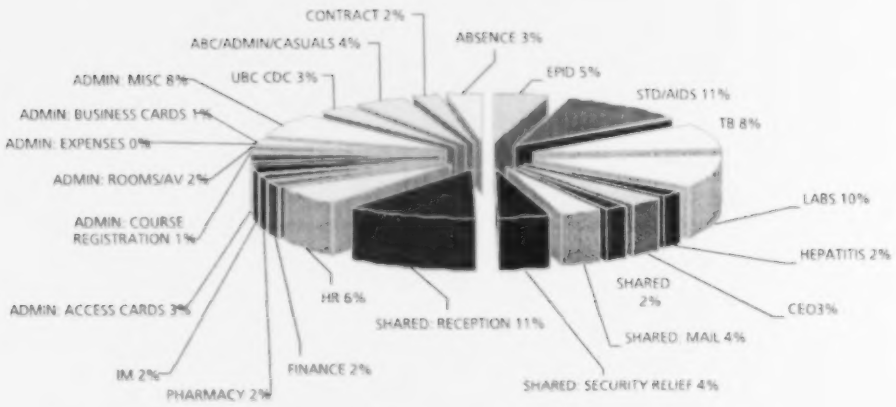
Key performance measures have been identified in each Administrative area above and systems have been established which ensure that appropriate actions are taken to balance workloads, manage backlogs, schedule staff and proactively solve problems within the centres centralized support services as they occur.

Additional plans for the year 2002-03

- Establish a web based measurement tool to collect information on workload volumes, performance and activity data and look for ways to improve Administrative efficiencies.
- Complete population of CDC's new StaffNet website. Train Divisional Research Officers how to best utilize StaffNet for Division specific needs.
- Establish an online virtual library for all BCCDC staff to easily access scientific papers, conference proceedings, internet websites and other useful online resources.
- Standardization of the Administrative Policy and Procedures Manual to ISO standards by the end of August 2002 for StaffNet.

Administration Business Centre Team and Casual Staff

Left to right: Carolin Hoskins, Coordinator, Administration Business Centre, Yvonne Santa-Cruz, Elin Siguardson, Bonnie Hoskins, Wendy Conway-Brown, Bhupinder Puar, Myfanwy Postgate.



Breakdown based on 5.5 FTEs for a 35-hour work-week.

- EPID
- LABS
- SHARED
- SHARED: RECEPTION
- PHARMACY
- ADMIN: COURSE REGISTRATION
- ADMIN: BUSINESS CARDS
- ABC/ADMIN/CASUALS
- STD/AIDS
- HEPATITIS
- SHARED: MAIL
- HR
- IM
- ADMIN: ROOMS/AV
- ADMIN: MISC
- CONTRACT
- TB
- CEO
- SHARED: SECURITY RELIEF
- FINANCE
- ADMIN: ACCESS CARDS
- ADMIN: EXPENSES
- UBC CDC
- ABSENCE

Service Framework

Financial Administration

BCCDC is one of the five branches within the Provincial Health Services Authority (PHSA). Funding for the activities of BCCDC is mainly from the Ministry of Health Services through the PHSA beginning April 1, 2002. The annual BCCDC Performance Plan includes a comparative statement of operations.

Where BCCDC's services lend themselves to revenue generation BCCDC considers current applicable policies, market forces, and the need to recover appropriate program and overhead costs when establishing fees. All costs of operating thses revenue generating services are intended to be fully recovered.

This year a 20% increase over past year research grant sources is targeted; revenue generated in excess of related costs will be shared between BCCDC and UBC CDC.

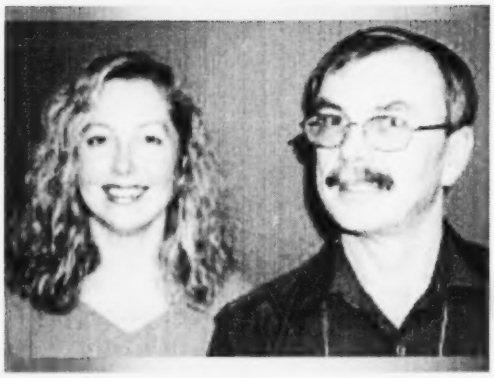
The accounts of BCCDC are prepared on an accrual basis in accordance with generally accepted accounting policies. BCCDC compiles monthly reports of its financial position and progress against its objectives and performance targets. Quarterly reports are submitted to the Board of Directors. BCCDC is subject to an annual independent audit. BCCDC conducts internal and special audits as required.

BCCDC has set a goal that 3% to 5% of its annual service delivery costs should be saved through efficiencies and reallocated to new or expanded programs. When BCCDC is asked to deliver services or programs additional to those detailed in the annual BCCDC Performance Plan, BCCDC may request that the PHSA or the Ministry of Health Services consider adjusting funding.

Statement of Operations

	2002/2003 Budget $	2001/2002 Actual $	2000/2001 Actual $
Revenue			
BC Ministry of Health Services Grants	50,726,000	52,617,169	37,284,701
Recovery from Medical Services Plan	467,000	505,901	1,414,205
Other Funding	4,550,000	5,666,238	3,722,345
Amortization of Deferred Capital Contributions	1,109,000	1,128,665	812,410
Total Revenue	56,852,000	59,917,973	43,233,661
Expenses			
Salaries and Wages	15,092,000	14,508,547	13,662,567
Employee Benefits	2,589,000	2,590,922	2,531,367
Contract Services	5,747,000	5,854,369	4,377,557
Equipment and building costs	6,906,000	6,772,908	576,303
Supplies	21,345,000	22,376,423	17,298,994
Sundry	4,040,000	4,852,075	3,815,595
Amortization	1,133,000	1,154,852	856,078
Total Expenses	56,852,000	58,110,096	43,118,461
Excess before undernoted items	Nil	1,807,877	115,200
Sick and Retirement Allowance, Unfunded	Nil	112,700	115,200
Excess/(deficit)	Nil	1,695,177	Nil

Service Framework



Bob Kenward, Human Resources Manager,
Christine Tough, Human Resources Officer *(Casual)*

Human Resources

With one full time manager and clerical support from the Administration Business Centre, the Human Resource provides a full range of services for BC Centre for Disease Control. While the Health Employers Association of BC undertakes bargaining, on behalf of the centre, the organization is responsible to administer terms and condition of employment for Nurses, Paramedical, Community, physicians and excluded staff.

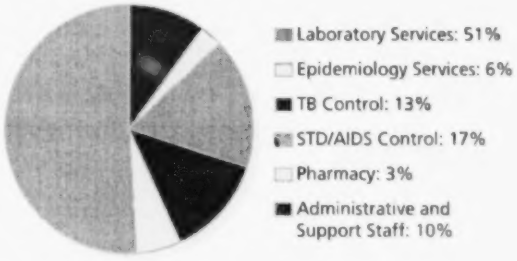
Human Resources assists the operating divisions with performance issues, training, recruitment, retention, safety and compensation. Works in close liaison with the Health Employers Association of BC and other members of the Provincial Health Services Authority Human Resources to ensure the centre's needs are met.With Health Care restructuring the following challenges can be anticipated –

- Impact of Bill 29, alterations to collective agreements
- Integration of current BCCDC resources into PHSA organizational structures

In 2002 – 3, key priorities for Human Resources are:

- Transfer and integration of the Radiation Protection Program and the Food Safety Program from the Ministry of Health to BCCDC
- Movement of the BC Drug and Poison Control Centre to the BCCDC
- Assisting Divisions, especially Laboratory, to achieve improved efficiency and effectiveness through restructuring
- Working with Directors and Supervisors to optimize staff allocation
- Assisting Divisions with recruitment to achieve program goals and objectives
- Concluding the implementation of the Community classification system
- Working with PHSA to consolidate support service functions
- Improvement in safety
- Improvements in attendance
- Revision of Human Resource Policies
- Contract administration
- Meeting Human Resource Services needs for the Centre
- Preparing for the retirement of a significant number of employees over the next five years

Full Time employees



Service Framework

Layton Engwer, Director, Information Management

Information Management

The Information Management team will bring a world of change to BCCDC, users and Public Health providers in BC. Change will come with:

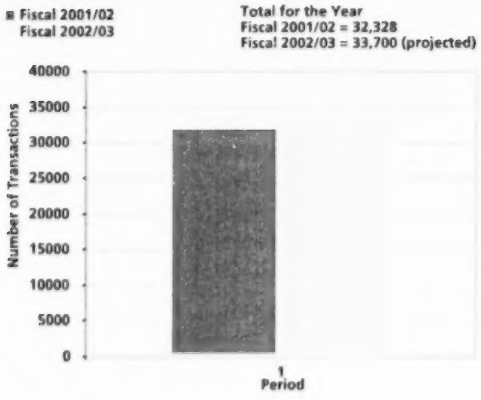
- The introduction of web based Public Health Information Systems (PHIS) across the province by the end of the year. This will build on the benefits already achieved and will be inclusive of the Tuberculosis Control program and STD/HIV Division users early in 2003-04.
- The evolution of the Provincial Health Services Authority (PHSA) will bring organizational change. It is envisioned that managing resources, on a PHSA wide level will improve services and direct resources to needed PHSA initiatives.
- On a pan-Canadian basis Information Management is bringing change to Alberta, Saskatchewan, Manitoba, Ontario, NWT, Yukon and Newfoundland. Working under contract to Health Canada's CIPHS project, Information Management will implement PHIS web pilots in these jurisdictions by year end.
- Improved Health Authorities, Provincial and pan-Canadian surveillance is an objective of Information Management Services.

Service Framework

The Provincial Pharmacy is dedicated to providing high-quality pharmaceutical services that result in optimal patient outcomes in an environment that encourages excellence, teamwork, innovation and continuous improvement.

Dr. Fawziah Marra, Pharmacy Services

Total Number of Transactions



Pharmacy Services

Mission

The Provincial Pharmacy is dedicated to providing high-quality pharmaceutical services that result in optimal client outcomes in an environment that encourages excellence, teamwork, innovation and continuous improvement. Our goal is to provide a safe, cost-effective and efficient pharmaceutical care system, contributing to positive patient outcomes for specific disease programs facilitated by the BC Centre for Disease Control such as tuberculosis (TB), sexually transmitted diseases (STD), and biologicals.

Services

Pharmacists work directly with physicians and other healthcare providers to provide pharmaceutical care and are involved with research projects and education of patients, pharmacy students/interns, and other healthcare providers. Our Pharmacy technicians play a fundamental in employing technologies such as the automated filling equipment and the BDM® pharmacy information system and assist in the management of the distribution of biologicals and in inventory control of pharmaceuticals.

We employ an automated dispensing system for the most commonly prescribed routine medications. This technology is cost-effective by minimizing drug dispensing errors and their associated morbidity. We also use a state of the art standardized computer system (BDM) to keep track of the dispensed medication and clinical appropriateness of regimens.

Tuberculosis

Medications for TB are dispensed through the Province of BC and throughout the Yukon Territory under the mandate outlined by TB Control. Medications are distributed to patients via chest clinics, health units and physician's offices. A patient requiring treatment is issued medications at 30-day intervals so that compliance and adverse reactions may be detected. Counseling for patients with latent tuberculosis infection is also conducted by the pharmacists who review the dosage regimen, adverse reaction profile, potential drug interactions with the TB medications as well as stress the importance of compliance.

Sexually transmitted diseases

Medication units for STD's are supplied to health units, physicians' offices and specialized care service facilities throughout the Province. Each drug is packaged and supplied in a unit appropriate for the course of treatment under the Canadian STD Treatment Guidelines.

Biologicals

Biological TB products are provided for public health mandates endorsed by TB Control and the Communicable Disease Control Immunization Program. Similarly, other publicly funded biological products used for the immunizations of preventable diseases are handled by the Biologicals Desk, a responsibility managed by the Pharmacy and in collaboration with Epidemiology Services. Pharmacy is is responsible for the purchasing and distribution of biological products (under cold chain conditions) to health affiliates, and is also responsible for minimizing wastage and conducting surveillance of requests for the biologicals to enhance the cost effectiveness of volume outputs. The Biologicals Desk is the Province's resource centre for product information.

Bioterrorism and Pandemz

Pharmacy is involved with the development of policies and procedures around bioterrorism and pandemic influenza including the distribution of vaccines, antibiotics or antiviral agents for mass immunization or medical treatment in response to an event.

Education

The department is closely linked with the Faculty of Pharmaceutical Sciences at the University of British Columbia and provides training for undergraduate and postgraduate pharmacy students. Pharmacists also contribute to in-house educational programs for nursing and paramedical personnel.

Research

Research initiatives include: (1) performing pharmacoeconomic and outcomes analyses for evaluating publicly funded programs which provide antimicrobials for TB and STD management as well as programs in immunization; (2) helping to establish databases to collect information on regional utilization rates of vaccines; (3) developing enhanced surveillance systems for management of vaccine-related adverse reactions; (4) conducting a case-control study of the effectiveness of influenza vaccine in solid-organ transplant recipients; (5) conducting a pilot project for populating the B.C. immunization registry; (6) evaluating quality of life issues for patients with active and latent tuberculosis.

2001/2002 A Year in Review

Island reflectng in the Skeena River, BC

2001/2002 A Year in Review

Program Improvement Highlights

The following are specific program enhancements which were accomplished last fiscal year.

1. Eliminate and Control Communicable Diseases

- Validated then implemented use of clustering Restriction Fragment Length Polymorphism (RFLP) laboratory fingerprinting typing of all isolates of *M. tuberculosis*.
- Developed environmental services in areas of quality assurance, testing and informatics to meet the new level of water testing as per the Canadian Drinking Water Guidelines.
- BC Hepatitis Services focused on developing and beginning to implement strategies to avoid/reduce hepatitis transmission and reduce the burden of illness for those affected and infected.
- A 3-day Interdisciplinary Viral Hepatitis Education Workshop was developed and piloted with physicians and nurses.
- Partnered in development of Biological Response Advisory Team Protocol.
- Validated and implemented a new laboratory molecular test for Norwalk-Like Virus (NLV) with USA CDC; development of DNA sequencing to develop preventive strategies.
- A Proposal for integration of laboratory fingerprinting data (BioNumerics) into PHIS submitted.
- Responded to Health Canada's request for assistance in genotyping the waterborne outbreak parasite *Cryptosporidium parvum* in North Battleford, Sask.
- Performed fingerprinting study *of Neisseria meningitidis* outbreak strain using PFGE (fingerprinting); study of carriage state in the community.
- A study was conducted to identify deficiencies in notification to the provinces by Customs and Immigration Canada of migrants with tuberculosis.
- Recommendations were developed through a national TB immigration subcommittee.
- Significant increases in preventative therapy for latent tuberculosis were achieved.
- TB Control participated in Downtown Blitz to identify persons with latent tuberculosis infection. 1400 clients were screened.
- A biologicals management team was established to handle the purchasing and distribution of biological products to health affiliates while minimizing wastage.
- Cold chain monitoring of vaccines sent from the Lynden warehouse to public health units was implemented.
- A returns policy was developed for vaccines such that all biologicals are now being returned to the Lynden warehouse for reuse, destruction or return to manufacturer for credit.
- Patient education of medications used for treatment of latent tuberculosis infection and atypical mycobacterial diseases was initiated by Pharmacy Services.
- Assessment of TB laboratory molecular fingerprinting to patient cluster analysis was performed.
- Viral drug resistance testing was validated in Labs.
- *Helicobacter pylori* spectrum of services was enhanced with new immunological, culture and molecular approaches studied.
- Antibiotic-resistant organisms (Methicillin Resistant *Staphylococcus Aureus* – MRSA) clusters were investigated using PFGE and BioInformatics software programs.
- A Second Provincial Malaria Workshop for education of pathologists and technologists held.
- Syphilis laboratory fingerprinting was studied in collaboration with USA CDC.
- Characterized the seroprevalence to waterborne parasite, *Cryptosporidium*, at a population level in 6 BC communities.
- Real-time fingerprinting for E. coli 0157, *Salmonella* and *Shigella* (Food/waterborne enteric pathogens) performed.

2001/2002 A Year in Review

2. Detect and Respond to New Disease Threats

- BCCDC's existing communicable disease policies and guidelines and the provincial immunization manual were posted on BCCDC's website.
- Investigated social network analysis to better control STDs, especially syphilis.
- Evaluated new informatics programs for laboratory document control
- Molecularly fingerprinted food borne pathogens and transferred the "fingerprints" electronically to centralised national and international databases (PulseNet).
- Validated and supported the recently developed response protocols for bioterrorism, Risk Group 4 spills and response to viral hemorrhagic fever.
- Integrated with the growing national network of Centres of Excellence for Clear Water.
- Evaluated Herpes Simplex Virus testing with nucleic acid technology for genital samples.
- Enhanced the work in Zoonotic and Emerging Pathogens by further developing collaborations with the BC Animal Health Care Centre and the National Microbiology Laboratory.
- Implemented mathematical modeling for hepatitis C, and influenza.
- Assisted in the development of a BC and a Canada-wide Drinking Water Network.
- Empowered our Molecular Epidemiology Team to identify and develop molecular epidemiology testing in support of outbreak investigation and management and control of communicable disease.
- Circulated a draft proposal to support province-wide testing to meed Canadian Drinking Water Guidelines.
- Developed Waterborne Infection-Laboratory Surveillance protocol.
- Commissioned and certified the three Containment Level 3 laboratory suites; trained staff and others in enhanced Laboratory Biosafety practices.
- Developed the Containment Level 3 program including our Occupational Health and Safety Module.
- Development of a vision statement, program materials and leadership infrastructure for CL3/BS Program.
- Conducted a GAP analysis of Laboratory Service Quality Management Systems.
- Moved towards the new International Standards Organization (ISO) Laboratory Standards 15189 (Quality Management Systems) in synchrony with ISO 9000 Standard, Centre-wide.
- Surveyed the public, public health staff and other users of BCCDC's programs and services to determine areas for improvement.

- Formalized terms of reference for all Laboratory Quality Teams including Staff Development, Internal Quality Audits and Continuous Quality Improvement towards improving quality systems.
- Partnered with hospital and community labs in study of *Helicobacter pylori*
- A universal infant hepatitis B immunization program was developed and funded.
- Detection of parasite *Cyclospora Cayetanen – SIS* in food borne outbreak.
- Molecular sequencing of unexpectedly large numbers of Norwalk-like Virus (NLV) outbreaks to determine possible modes of spread.
- Survey of NLV long term care facilities by provincial infection practitioner.
- Investigated food borne listeriosis using new molecular lab methods (PFGE).
- Lab Services Strategic Planning recommendations for followed up.
- Zoonotic and Emerging Pathogens sections amalgamated to include a host immunological analysis, high risk areas, new public health and reference test development.
- Interdisciplinary Symposium held on Zoonoses in collaboration with the BC Animal Health Centre.
- Microbial molecular fingerprinting became real-time; data was shared electronially across Canada.
- *M. tuberculosis* fingerprinting was applied to all suitable isolates of tuberculosis; risk factors for patient clustering were described.
- Enhanced surveillance of acute hepatitis B and C is in progress.
- Numerous in-service training workshops were conducted throughout the province.
- A successful move to the New Westminster Tuberculosis clinic was completed and the clinic became fully operational.
- A plan for distribution of vaccines and antimicrobials to public health units for mass immunization or medical treatment was developed for a bioterrorism threat or a pandemic influenza event.
- Direct probing for TB complex rRNA in smear positive specimens increased on request to three times weekly (from once weekly).

2001/2002 A Year in Review

3. Develop Advanced Informatics

- Enhanced surveillance for antibiotic resistant organisms by developing relationships with other laboratories (BC Canadian Association of Medical Microbiologists).
- Improved epidemiological analysis and pattern detection of tuberculosis.
- Tested for electronic reporting for faster response to biological associated adverse effects.
- Examinined the feasibility of using current statistical approaches to determine if diseases may be approaching outbreak levels in real time and automated fashion.
- Designed geographical information systems for increased survellance and control.
- Explored electronic requests for tuberculosis patient files with the aim of reducing costs.
- Completed a feasibility study to determine ways and means of providing direct access to the Immunization Registry by physicians.
- Developed strategic information management to support enhanced tracking, surveillance and care of hepatitis patients to provide data to improve forecasting and to allow evaluation of services for both prevention and care.
- Determined the need for a new Laboratory Services Information System (LIS).
- Developed the concept of automated surveillance of reportable diseases with private lab partners.
- Continued the partnership with Health Canada and other jurisdictions in Canada.
- Enhanced the use of the maternal/child screening components by the Public Health Providers.
- In conjunction with Epidemiology, developed a strategic plan for Public Health information management in BC and expanding PHIS's full use in British Columbia.
- Explored data sharing between Health Authorities and First Nations in BC for immunization records.
- Expanded use of Lab Test Standards to other labs.
- Collaborated with Ministry of Water, Land and Air Protection on drinking water Quality Assurance and educational efforts.
- Environmental service informatics pilot project
- Enhanced the Public Health Information System (PHIS) by:
  - Finalizing data sharing agreements
  - Expanding funding relationships with the Ministry of Children and Family Development and the Ministry of Health Services.
  - Preparing for migration to world wide web (www) operations.
  - Developing TB, STD, and HIV modules.
  - Complying with the Health Canada contract.
  - Expanding the use of the maternal/child screening components by the Ministry of Children and Family Development.
  - Developing a strategic plan for public health information management in BC and expanding PHIS's full use in British Columbia.
- Adverse immunization events reporting was strengthened.
- The Public Health Information System was expanded including integration of an electronic communicable disease outbreak module, to include 17 out of 18 Health Authorities that provide public health services
- A feasibility study was undertaken with the Ministry of Health to determine ways and means of providing direct access to the Immunization Registry by physicians.
- Significant advances were made in developing a standardized TB clinical module in the PHIS system, which is now in the testing phase.
- Expanded of projects related to reporting reportable diseases.

4. Foster Applied Research and Innovation

- Developed new mathematical models of infectious disease transmission based on non-linear system dynamics.
- IM continued to explore and build on links with Pan-Canadian and Electronic Health Record initiative (EHR).
- Worked Collaboratively with industry to assess novel molecular diagnostic tests and their clinical utility.
- Collaborated with Medical Health Officers, Environmental Health Officers and Water Purveyors on drinking water research.
- Provincial Health Water Forum meeting organized and held.
- Research forum held with the Canadian Water Network (NCE Program).
- Funding for Watershed to Tap Community Drinking Water study obtained.
- Partnership with the Greater Vancouver Regional District on waterborne parasites.
- Clinical and immunologic characterization of ORS was completed.
- Determination of pharyngeal carriage of meningococcal group C during an outbreak situation was completed.
- Evaluation and mathematical model of mass treatment to control epidemic syphilis were completed.
- Shared programming with the Genome Science Centre was initiated.
- An analysis of an outbreak due to *Cryptococcal neoformans* variety *gattii* was completed.
- Over $3 million in research grants and contracts and 49 publications were produced by Centre investigators.
- A contract to develop a reporting tool for providing drug utilization rates for STD and TB medications was initiated.
- Data collection regarding number of prescriptions filled and workload statistics for pharmacy personnel was implemented.

5. Maintain Public Health Excellence

- Addressed the recommendations from the Canadian council on Health Services Accreditation.
- Improved personal computer skills of all staff by expanding the Networked Learning Centre.
- Increased desktop training and providing loans for personal purchase of desktop computers.
- A position for a senior mathematical modeler was recruited and arrangements for securing the services of a biostatistician were completed.
- Environmental Services and Virology Services successfully accredited.
- All three CL3 Laboratories were certified.
- The quest for a Laboratory Quality manager began.
- Enhanced Water Quality Assurance Program developed with UBC, CMPT, DAP and BCALP partners.
- In July 2001, BCCDC implemented a dedicated Human Resources component staffed by one Manager. The service provides employees and supervisors with timely on-site guidance and assistance. The Manager of Human Resources works with staff, unions and managers in the process of correcting performance issues in a collaborative manner.
- Recertification with on-site accreditiation of 14 water labs throughout BC.
- The Administration Business Centre team has developed and matured into an operational success leading to increasing administrative efficiencies. With ongoing training and skills development our commitment to providing the "best" in service remains as one of our primary goals. This administrative structure will now be used as a template for the TB Administration and Clinic Operation both here and in New Westminster where it is anticipated the same efficiencies will be enjoyed.

2001/2002
A Year in Review

6. Provide Leadership and Support Partnerships

- Implemented electronic linkages to radiological digital imaging for tuberculosis at St.Paul's Hospital and Vancouver General Hospital.
- Participated in the University Networking Project ($3 million for capital funding for research) to facilitate research through enhanced access to UBC and external information resources, shared research data and electronic collaboration among researchers internal and external to BCCDC.
- Leadership in health surveillance and information or in partnership with Health Canada was developed.
- Developed plans for local school boards to provide the immunization status of their students to their local health region for entry into the Immunization Registry.
- Pursued data sharing agreements with First Nations and Inuit Health for immunization and communicable case data.
- Supported a partnership between local Boards of Education to improve provision of public health service such as immunizations and screening.
- Assisted external sites with an assurance program of training, consultation and support to provide Point of Care Rapid HIV Testing in accordance with BCMA Laboratory Diagnostic Accreditation Program.
- Developed collaborations with BC Cancer Agency for testing and follow-up of the human papilloma virus.
- Worked with Providence HealthCare and Vancouver Hospital and Health Science Centre laboratory leaders to develop Laboratory Quality Management Systems.
- Partnered with public and private sector environment testing facilities to enhance capacity while maintaining excellent quality to meet laboratory testing at Canadian Drinking Water Guidelines levels.
- Hosted Washington State Public Health Lab oratory to enhance collaboration on molecular services, bioterrorsm response and other initiatives.
- Developed partnership with PHSA partners in opening training opportunities and access to BCCDC employees.
- BCCDC Human Resource policies were initiated regarding harassment, discrimination, safety committees and scented products. The Safety committee was realigned in keeping with Worker's Compensation Board guidelines.

Corporate Information

BCCDC Executive

Ron Zapp, Provincial Director

Dr. Bob Brunham, Director, Medical & Academic Affairs UBC/CDC

Larry Copeland, Director, Food Protection Services

Derek Dawes, Drug & Poison Information Centre

Dr. Kevin Elwood, Director, TB Control

Sharon deLisser, Manager, Administration

Layton Engwer, Director, Information Management

Dr. Judy Isaac-Renton, Director, Laboratory Services

Bob Kenward, Manager, Human Resources

Dr. Mel Krajden, Director, Hepatitis Services

Dr. Fawziah Marra, Director, Pharmacy Services

Sue Murphy, Director, Finance & Resource Management

Dr. David Patrick, Director, Epidemiology Services

Brian Phillips, Director, Radiation Protection Services

Dr. Michael Rekart, Director, STD/AIDS Control

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